

Contract Specifications

for

Wesmond Lateral Connection Poolesville, Maryland

Contract 100.038

Prepared for

Town of Poolesville
19721 Beall Avenue
Poolesville, Maryland 20837

Prepared By

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Germantown, Maryland 20874
301.528.2010

INVITATION TO BID

THE TOWN OF POOLESVILLE
A Municipal Corporation of the State of Maryland

for

Wesmond Lateral Connections

Contract No. 100.038

Project 100.038: Sealed bids for the construction of the Project named above should be addressed to the Town of Poolesville and will be received at Poolesville Town Hall, P.O. Box 158, 19721 Beall Street, Poolesville, Maryland 20837, until the time set forth below at which place and time they will be publicly opened and read.

Description of Project:

Grouting the Connections between the six-inch lateral and the six-inch mainline. Laterals and main line have been lined.

All work will be constructed in the Town of Poolesville, located in Montgomery County, Maryland.

Pre-Bid Meeting: November 9, 2021 10:00am, at Town Hall, 19721 Beall Avenue, Poolesville.

Last Date for Questions: November 11, 2021, 4:00pm

Bid Opening: November 19, 2021, 11:00am

Copies of the contract documents, addendums and bid documents will be posted on the eMaryland Marketplace website.

Bidder qualification requirements and labor provisions are set forth in the Information for Bidders. Contract for work under this bid obligates the contractor and subcontractors not to discriminate in employment practices.

Tony Tomasello, Town Manager
Town of Poolesville

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INFORMATION FOR BIDDERS

INFORMATION FOR BIDDERS

I. BIDDING PROCEDURES

A. Submitting a Proposal

1. Before submitting a proposal, each bidder shall carefully read the specifications and contract documents; visit the site of the work; be fully informed of all conditions and limitations; and include sums in the bid to cover the cost of all items contained in the contract. Inspections may be coordinated with John Strong at Clark | Azar & Associates, (301) 528-2010.
2. Proposals must be submitted on the attached forms and include a lump sum contract price, written in words and shown in figures, for performing the work under this contract.
3. Proposals must be signed by the bidder with name and address and enclosed in a sealed envelope marked "Proposal for Contract 100.038 – Wesmond Lateral Connections" with the name of the bidder.
4. The owner reserves the right to reject any and all bids and to disregard any or all non-conforming or conditional bids or counter bids.
5. Bids may be modified in writing or withdrawn at any time prior to the opening of bids. Oral, telephonic, or telegraphic bids are invalid and will not receive consideration.
6. Bidders are advised that, unless work under the contract is started within ten days after receipt of the formal Notice to Proceed, the contract shall be void if the owner notifies the contractor to that effect.
7. A bid bond, certified check, or bank treasurer's check in the amount of five percent of the initial contract price must accompany the bid form, or the same will not be considered.
8. Bidders shall have the capability to perform classes of work contemplated and shall have the necessary plant and sufficient capital to execute the work properly within the specified time frame. All bidders shall complete and submit the Contractor's Qualification questionnaire (Bid Form section) with their proposal.
9. Bidder shall assume full responsibility for timely delivery at Town Hall. Bids received after the designated time for the public bid opening will be returned to the bidder unopened.
10. Bids will be publicly opened and read aloud at the time and place set forth in the Invitation to Bid. Only bid totals will be publicly read at the bid opening. Bidders and other interested parties may be present in person or by representative.

11. No bidder may withdraw a bid within thirty (30) days after the actual date of the opening of the bids. Negligence on the part of the bidder in preparing the bid confers no right for the withdrawal of the bid after it has been opened. Should there be reasons why the contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the Town and the bidder.
12. A bidder may submit only one bid for this contract. More than one bid from an individual, firm or partnership, corporation, or association under the same or different names will not be considered for this contract and will be considered grounds for disqualification.
13. If the Town chooses to award this contract, it will be awarded to the most responsive bidder. The owner shall be the sole judge of which proposal is deemed the most responsive.

B. Work under this Contract

1. Work described herein shall be in accordance with the General Conditions, Proposal, Technical Provisions, Attachments, and other documents contained in the Contract Documents.

C. Notice to Bidders

1. Foreign corporations: As required by Maryland law, all foreign corporations doing business within the State of Maryland are required to be registered with the State Department of Assessments and Taxation. To be eligible to contract with the owner, compliance with this law is mandatory.
2. Affidavit of Non-Conviction: Maryland laws require an affidavit by the bidder as to whether the individual or the business entity has ever been convicted of bribery in the State of Maryland or elsewhere. Bidders must complete the form "Affidavit of Non-Conviction." The completed form must be submitted with the bid.
3. The owner will consider, in determining the qualifications of the bidder, its record in the performance of any contracts for the construction work into which it may have entered with the Town or with other public bodies or corporations. The owner expressly reserves the right to reject the bid of any bidder if such record discloses that such bidder, in the opinion of the owner, has not properly performed such contracts or has habitually and without just cause neglected the payment of bills, or has otherwise disregarded its obligations to subcontractors, material men, suppliers or employees.
4. The owner may make such investigations as it deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the owner all such information and data for this purpose as it may request. The owner reserves the right to reject any bid if the evidence submitted by, or investigation of such bidder, fails to satisfy the owner that such bidder is a responsive and

responsible bidder in accordance with the criteria set forth herein. Conditional bids will not be accepted.

5. Affidavit of Non-Collusion: The owner is cooperating with the U.S. Department of Justice in a program designed to preclude collusive bidding and to make more effective the enforcement of antitrust laws in the area of procurement of property and services by governmental and public agencies. Bidders must supply with their bids their U.S. Treasury Department Employer's Identification Number as such number is shown on their Employment Quarterly Federal Tax Return (U.S. Treasury Department Form No. 941). This number shall be inserted on the proposal in the place designated.

D. Interpretation of Documents

1. If any person contemplating submitting a bid for the proposed contract is in doubt as to the true meaning of any part of the specifications or other sections of the contract documents, or finds discrepancies in or omissions from the specifications, the issue may be submitted to John Strong at Clark | Azar & Associates, Inc., , 20440 Century Boulevard, Suite 220, Germantown, Maryland 20874, (301) 528-2010, a written request for an interpretation or correction thereof. The person submitting the request will be responsible for its prompt delivery. **Questions received after November 11, 2021, 4:00pm, will not be answered.** Any interpretation or correction of the proposed documents will be made only by an addendum duly issued, and a copy of such addendum will be sent, by certified mail, to each person having a set of such documents in their possession. The owner will not be responsible for any other explanations or interpretations of the contract documents.
2. Any and all addenda issued prior to the date of bid submission shall become a part of the contract documents and shall be covered in the bid price.

E. Taxes

1. The contractor shall pay all Federal, State, and local taxes for equipment, materials and other items required for this contract.

F. Equal Employment Opportunity and Non-Discrimination

1. All contractors and subcontractor working for the Town of Poolesville must comply with the following:
 - a. All Civil Rights laws of the United States and of the State of Maryland.
 - b. All anti-age discrimination laws of the United States and the State of Maryland.
 - c. All anti-sex discrimination laws of the United States and the State of Maryland.

- d. All anti-handicapped discrimination laws of the United States and the State of Maryland.

G. Construction Schedule

1. Within ten days after the issuance of the Notice of Award, the contractor shall submit his construction schedule to the engineer for review and approval.

II. AWARD OF CONTRACT

A. Performance, Payment and Maintenance Bonds

1. The successful bidder shall furnish Performance and Payment Bonds and a letter of intent to issue a Maintenance Bond to the owner in penal sums equal to 100 percent of the amount of the bid.
2. The bidder to whom the contract is to be awarded shall be required to submit the Performance and Payment Bond, properly executed, to the owner within ten days after award of the contract. No bid shall be considered binding upon the owner until the contract has been awarded and all bonds have been received.
3. Upon satisfactory completion of the work, the contractor shall furnish to the owner a Maintenance Bond to be in effect for a period of one year from Contract Final Acceptance.

B. Execution of the Contract

1. The contract will be awarded by the owner within ninety (90) days of the bid opening date to the most responsive and responsible bidder or the bids may be rejected as hereinbefore provided, as the interests of the owner may require. The contract may not necessarily be awarded to the lowest bidder. The bid as submitted shall serve as the final contract acceptance document.
2. The owner will retain all bid bonds until the contract has been awarded at which time they will be returned.
3. A formal Notice to Proceed will be issued by the owner within thirty (30) days of the contractor's submission of the insurance certificates and bonds as specified in the General Conditions and its supplements.
4. All work under this contract, including cleaning up, shall be fully completed within the number of calendar days specified in the proposal form.
5. Prior to starting work on this contract, a pre-construction meeting will be held at the site to review requirements of the contract. Progress meetings will be held at the engineer's discretion.

6. Consideration of and decisions regarding substitutions will not be made until after award of the contract.
7. The owner wishes to construct all of the improvements depicted in these bid documents. However, project-funding limitations may prohibit the owner from proceeding with all of the proposed work.

III. BIDDER REPRESENTATIONS

Each bidder by submitting a bid represents that:

- A. It has read and understands the bidding documents and its bid is made in accordance therewith; the bidder agrees to be bound by the terms and requirements set forth in the bidding and contract documents.
- B. It has visited the site, has familiarized itself with the local conditions under which the work is to be performed and has correlated its observations with the requirements of the proposed contract documents.
- C. Its bid is based upon the materials, systems and equipment required by the bidding documents without exception; and
- D. It has the capability, in all respects, and the moral and business integrity, reliability, technical ability, financial resources, plant, management, superintendence, equipment and materials which will assure effective and efficient good faith performance in full compliance with the contract documents and with any and all schedules and milestone and complete dates required by the owner. The bidder acknowledges and represents that it has made allowances for normal inclement weather indigenous to the project site, in its estimating, planning, and scheduling of the work. The bidder further acknowledges that the contract documents are, in its opinion, appropriate and adequate for completing this project and for the construction of sound and suitable work. The bidder hereby certifies that the work shall be completed, in place, in full accordance with the contract documents, within the time limits specified.

IV. BID EVALUATION

- A. Bids will be evaluated based upon the total contract price provided by bidders on page BF-4 based on the unit prices shown elsewhere in the bid form.
- B. Bids will also be evaluated on the performance of previous similar contracts by a bidder for the owner. Unsatisfactory performance on previous contracts is considered grounds for rejection of a bid.

END OF INFORMATION FOR BIDDERS

GENERAL CONDITIONS

GENERAL CONDITIONS

Article 1. DEFINITIONS

- 1.1 Wherever used in the Contract Documents, the following terms shall have the meanings indicated, which shall be applicable to both the singular and plural thereof.
- 1.2 Addenda - Written or graphic instruments issued prior to the Award of the Contract which modify or interpret the Contract Documents, Drawings and Specifications by additions, deletions, clarifications or corrections.
- 1.3 Bid - The offer or proposal of the Bidder submitted in the prescribed manner on the prescribed form setting forth the prices for the Work to be performed.
- 1.4 Bidder - Any person, firm or corporation submitting a Bid for the Work.
- 1.5 Bonds - Bid Bonds, Performance Bonds, Labor and Material Payment Bonds, Maintenance Bonds, and other instruments of security furnished by the Contractor and his surety in accordance with the Contract Documents.
- 1.6 Change Order - A written order to the Contractor signed by the Engineer authorizing an addition, deletion or revision in the work within the general scope of the Contract Documents or authorizing an adjustment in the Contract Price or Contract Time.
- 1.7 Contract Documents - The Contract, including Invitation to Bid, Information for Bidders, Bid Form, Contract, Bonds, Notice of Award, Notice to Proceed, Change Orders, Drawings, Certificate of Substantial Completion, Specifications, Addenda, these General Conditions, Attachments and Federal Requirements and Contract Provisions when appropriate.
- 1.8 Contract Price - The total monies payable to the Contractor under the terms and Conditions of the Contract Documents.
- 1.9 Contract Specifications Book - A set of documents issued by the Owner for the Project which includes the Invitation to Bid, Information for Bidders, Bid Bond, Bid Form, General Conditions, Technical Provisions and other forms and Attachments.
- 1.10 Contract Time - The specific date or the number of days stated in the Bid Form for the completion of the Work.
- 1.11 Contracting Officer - The authorized agent of the Owner who is administratively responsible for executing the Contract and performing other Work as designated herein, including the duly authorized representative of the Contracting Officer.
- 1.12 Contractor - The person, firm or corporation with whom the Owner has executed the Contract.
- 1.13 Day - A calendar day of 24 hours lasting from midnight one day to midnight the next day.

- 1.14 Drawings - The part of the Contract Documents which show the characteristics and scope of the Work to be performed and which have been prepared for the Owner. The term is used interchangeably with the word "Plans" and includes standard details and drawings bound in the Attachments section.
- 1.15 Engineer –Clark | Azar & Associates Incorporated, 20440 Century Boulevard, Suite 220, Germantown, Maryland 20874, 301.528.2010. Contact: John Strong.
- 1.16 Field Order - A written order issued by the Engineer to the Contractor during construction effecting a change in the Work not involving an adjustment in the Contract Price or an extension of the Contract Time. Also, a directive to conform to the terms of the Contract. See Article 13.
- 1.17 Notice of Award - The written notice of the acceptance of the Bid from the Owner to the successful Bidder.
- 1.18 Notice to Proceed - Written communication issued by the Engineer to the Contractor authorizing him to proceed with the work and establishing the dates of commencement and completion of the Work.
- 1.19 Owner - Town of Poolesville.
- 1.20 Owner's Representative - The authorized representative of the Owner assigned to observe any or all portions of the Work or Materials therefor.
- 1.21 Project - The undertaking to be performed as provided in the Contract Documents.
- 1.22 Shop Drawings - All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the Contractor, a Subcontractor, manufacturer, supplier or distributor, which illustrate how specific portions of the Work shall be fabricated or installed.
- 1.23 Specifications - Invitation to Bid, Information for Bidders, Technical Provisions, and Bid Form.
- 1.24 Standard Details - Details showing standard products, methods and materials for use on this Contract, found in the Attachments Section.
- 1.25 Subcontractor - An individual, firm or corporation having a direct contract with the Contractor or with any other Subcontractor for the performance of a part of the Work at the site. Subcontractor shall not mean supplier.
- 1.26 Substantial Completion - That date as certified by the Engineer when the construction of the Project or a specified part thereof is sufficiently completed in accordance with the Contract Documents so that the Project or specified part can be utilized for the purposes for which it is intended.
- 1.27 Supplier - Any person or organization who supplies materials or equipment for the Work (including that fabricated to a special design) but who does not perform labor at the site. Used interchangeably with Vendor.

- 1.28 Work - All obligations, duties and responsibilities necessary to the successful completion of the project assigned to or undertaken by the Contractor under the contract documents, labor, materials, equipment and other incidentals and the furnishing thereof.
- 1.29 Written Notice - Any notice to any party of the Contract relative to any part of the Contract in writing and considered delivered and the service thereof completed when posted by mail to the said party at his last given address, or delivered in person to said party or his authorized representative of the Project.

Article 2. ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS

- 2.1 The Contractor may be furnished additional instructions and detail drawings by the Engineer as necessary to carry out the work required by the Contract Documents.
- 2.2 The additional drawings and instructions thus supplied will become a part of the Contract Documents. The Contractor shall carry out the Work in accordance with the additional detail drawings and instructions.

Article 3. SCHEDULES, REPORTS AND RECORDS

- 3.1 The Contractor shall submit to the Engineer, such schedule of quantities and costs, construction progress schedules, payrolls, breakdown of lump sum items, reports, estimates, records and other data where applicable, as are required by the Contract Documents.

Article 4. CONTRACT DOCUMENTS

- 4.1 The intent of the Contract Documents is that the Contractor shall furnish all labor, materials, tools, equipment and transportation necessary for the proper execution of the Work in accordance with the Contract Documents and all incidental work necessary to complete the Project in an acceptable manner, ready for use, and operation by the Owner.
- 4.2 In resolving conflicts, errors and discrepancies within the Contract Documents, the Documents shall be given precedence in the following order:

Federal Requirements and Contract Provisions
Change Orders and Field Orders
Addenda
General Conditions
Specifications
Drawings
Standard Details

Within the Specifications, the Documents shall be given precedence in the following order:

Information for Bidders
Bid Form
Invitation to Bid
Technical Provisions

Division 1, General Requirements governs the execution of all Sections of the Specifications from Division 2 through Division 16. Anything mentioned in the Specifications and not shown on the Drawings or shown on the Drawings and not mentioned in the Specifications shall be of like effect as if shown or mentioned in both. Figure dimensions on Drawings shall govern over scale-dimensions and detailed Drawings shall govern over general Drawings.

- 4.3 Any discrepancies found between the Drawings and Specifications or any inconsistencies or ambiguities in the Drawings or Specifications shall be immediately reported to the Engineer in writing, who will promptly correct such inconsistencies or ambiguities in writing. Work done by the Contractor after his discovery of such discrepancies, inconsistencies or ambiguities prior to corrections directed by the Engineer shall be done at the Contractor's risk.

Article 5. SHOP DRAWINGS

- 5.1 The Contractor shall provide Shop Drawings as may be necessary for the prosecution of the Work as required by the Contract Documents. The Contractor shall certify that the Shop Drawings comply with the approved Plans and Technical Specifications. Contractor shall also provide a schedule and log for all submittals.

Article 6. MATERIALS, SERVICES AND FACILITIES

- 6.1 It is understood that except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all materials, labor, tools, equipment, light, power, transportation, supervision, temporary construction of any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete and deliver the Work within the specified time.
- 6.2 Materials and equipment shall be so stored as to insure the preservation of their quality and fitness for the work. Stored materials and equipment to be incorporated in the Work shall be located within the project site to facilitate prompt inspection.
- 6.3 Manufactured articles, materials and equipment shall be new and shall be stored, applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer, and as approved by the Engineer. Mechanical and electrical equipment delivered to the job site shall be stored under roof or other approved covering, on pedestals above the ground. All enclosures for equipment shall be weatherproof. Any motors which are not totally enclosed, that are involved in the work, shall be stored in a heated area with a minimum temperature of 50°F. All valves shall be stored under roof on wood pedestals above ground. The Contractor shall follow all written instructions and recommendations of the manufacturer and all requirements of the Engineer in oiling, protection and maintenance of equipment during storage.
- 6.4 Materials supplies and equipment shall be in accordance with samples, shop drawings and catalog cuts submitted by the Contractor and approved by the Engineer.
- 6.5 Materials, supplies or equipment to be incorporated into the Work shall be new and shall not be purchased by the Contractor or the Subcontractor subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.

- 6.6 All Work included in this Contract shall be performed in a skillful and workmanlike manner. The Contractor shall employ no plant, equipment, materials, methods or persons to which the Engineer objects, and shall remove no plant, equipment or other facilities from the site of the work without permission of the Engineer. The Contractor's failure to comply with these requirements will constitute a Breach of Contract and as such may result in a dismissal of the Contractor by the Owner.

Article 7. OBSERVATION AND TESTING

- 7.1 All materials and equipment used in the construction of the Project shall be subject to adequate observation and testing in accordance with generally accepted standards as required and defined in the Contract Documents.
- 7.2 If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any work to specifically be observed, reviewed, tested, or approved by someone other than the Contractor, the Contractor shall give the Engineer three working days' notice of readiness. The Contractor shall then furnish the Engineer the required certificates of observation, testing or approval.
- 7.3 Observation, tests or approvals by the Engineer or others will not relieve the Contractor from his obligations to perform the Work in accordance with the requirements of the Contract Documents.
- 7.4 The Engineer and his representatives will always, have access to the Work. In addition, authorized representatives of the Owner or agents of any participating Federal, State or local agency shall be permitted from time to time, as in their sole discretion they may deem necessary, to observe and review all work, materials, payrolls, records of personnel, invoices of materials and other relevant data and records. All such records shall remain available and accessible during performance of the Contract and until three years from the date of Final Payment, or, in case of dispute, for a period of three years after resolution of said dispute which ever is later. The Contractor shall provide proper facilities for such access and observation of the work and for any testing thereof.
- 7.5 If any Work is buried or covered without the approval of the Engineer or contrary to requirements elsewhere in the Contract Documents, it shall, if requested by the Engineer, be uncovered for his observation and recovered at the Contractor's expense.
- 7.6 If the Engineer considers it necessary or advisable that approved covered Work be reviewed or tested by others, the Contractor, at the Engineer's request, shall uncover, expose or otherwise make that portion of the work available for observation, review or testing as the Engineer may require by furnishing all necessary labor, materials, tools and equipment. If it is found that such Work is defective, the Contractor shall bear all the expenses of such uncovering, exposure, observation, review and testing and of satisfactory reconstruction. If, however, such Work is not found to be defective, the Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time or both, directly attributable to such uncovering, exposure, observation, review, testing and reconstruction and an appropriate Change Order will be issued.

Article 8. SUBSTITUTIONS

- 8.1 Substitutions will be allowed within the parameters set forth elsewhere in the Contract Documents. See Section 012500.

Article 9. PATENTS

- 9.1 The Contractor shall pay all applicable royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and save the Owner harmless from loss on account thereof, except that the Owner will be responsible for any such loss when a particular process, design or the product of a particular manufacturer or manufacturers as specified is an infringement of a patent. The Contractor shall be responsible for such loss unless he promptly gives such information to the Engineer.

Article 10. SURVEYS, PERMITS, REGULATIONS

- 10.1 Unless otherwise specified, the Contractor will establish all baselines for locating the principal component parts of the Work together with suitable number of benchmarks adjacent to the Work as shown in the Contract Documents.
- 10.2 Permits and licenses of a temporary nature necessary for the prosecution of the Work, such as plumbing and electrical permits, shall be secured and paid for by the Contractor unless otherwise stated in the Contract Documents. Permits, licenses and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the Owner unless otherwise specified.
- 10.3 The Contractor shall give all notices and comply with all permits, laws, ordinances, rules and regulations bearing on the conduct of the Work as drawn and specified. If the Contractor observes that the Contract Documents are at a variance therewith, he shall promptly notify the Engineer in writing and any necessary changes shall be adjusted as provided in Section 012600 – Contract Modification Procedures.
- 10.4 If any permit, license, certificate, shall expire, be revoked, terminated or suspended as a result of any action on the part of the Contractor, he shall not be entitled to any additional compensation, neither will he be entitled to an extension of the completion date.
- 10.5 Permits obtained by the Owner for this Project, if any, may be found in the Attachments Section of this booklet. The Contractor shall comply with all Owner requirements identified in the permits.

Article 11. PROTECTION OF WORK, PROPERTY AND PERSONS

- 11.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. He shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to all employees on the Work and other persons who may be affected thereby, all the work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

In case of suspension of Work for any cause whatsoever, the Contractor shall be responsible for the Project and shall take such precautions as may be necessary to prevent damage to the Work, provide for proper drainage and shall erect any necessary temporary structures, signs, or other facilities at his expense. During such period or suspension of Work, the Contractor shall properly and continuously maintain in acceptable growing condition all living material in newly established plantings, seeding, and sodding furnished under this Contract, and shall take adequate precautions to protect new growth and other important growth against injury.

- 11.2 The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders or any public body having jurisdiction. He shall erect and maintain, as required by the conditions and progress of the Work, all necessary safeguards for safety and protection. He shall notify owners of adjacent utilities when prosecution of the Work may affect them.
- 11.3 In emergencies affecting the safety of persons or the Work or property at the site or adjacent thereto, the Contractor, shall act, at his discretion, to prevent threatened damage, injury or loss. Any additional compensation or extension of time claimed by the Contractor on account of emergency Work shall be determined as provided in Articles 13 and 14.
- 11.4 When the Owner has been notified by others of emergency situations requiring in the Engineer's opinion, immediate attention and rectification, the Contracting Officer will so notify the Contractor. Should the Contractor not commence Work to rectify the situation within one hour after notification, the Owner may perform the required Work and deduct the costs thereof from monies owed the Contractor.

Article 12. SUPERVISION BY CONTRACTOR

- 12.1 The Contractor shall supervise and direct the Work. He shall be solely responsible for the means, methods, techniques, sequences and procedures of construction. The Contractor shall employ and maintain on the Work a qualified supervisor or superintendent who shall have been designated in writing by the Contractor as the Contractor's representative at the site. The supervisor shall have full authority to act on behalf of the Contractor and all communications given to the supervisor shall be as binding as if given to the Contractor. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the Work as determined by the Engineer.

Article 13. CHANGES IN THE WORK

- 13.1 Without invalidating the Contract, the Engineer may, at any time or from time to time, by written order, and without notice to the sureties, order additions, deletions or revisions in the Work. These will be authorized by Change Orders. Upon receipt of the Change Order, the Contractor shall promptly and diligently proceed with the Work involved. If any change order causes an increase or decrease in the contract price or scope of the Work, or an extension or shortening of the contract time, an equitable adjustment will be made within the Change Order.

The Engineer, may, at the request of the Contractor, issue interpretations, clarifications and other instructions as to be the intent of the Contract Documents, in the form of Field Orders. Upon receipt of such a Field Order containing interpretations, clarifications and other instructions, the Contractor shall proceed with the Work and comply with the Field Order.

- 13.2 The Engineer also may at any time by issuing a Field Order, make changes in the details of the work. The Contractor shall proceed with the performance of any changes in the work so ordered by the Engineer and should the contractor believe that such Field Order entitles him to a change in Contract Price or Time, or both, he shall give the Engineer Written Notice thereof within seven days after the receipt of the Field Order. Thereafter the Contractor shall document the basis for the change in Contract Price or Time within 30 days. Failure to adequately document the basis for the change within the prescribed time shall constitute an abandonment of all entitlement. Failure to proceed shall constitute a breach of contract and shall be cause for the termination of the Contract. Request for a Change Order arising out of a Field Order will not be considered without the attachment thereto of a copy of the referenced Field Order. No claim by the Contractor will be allowed if asserted after Final Payment under this Contract.

Article 14. CHANGES IN CONTRACT PRICE AND TIME

- 14.1 The Contract Price and Time may be changed only by a Change Order. The Change in the Contract Price or the commitment to pay same shall be determined in the manner provided herein, in the following order of precedence:

- a. Unit prices previously approved.
- b. An agreed lump sum.
- c. Force account basis, computed as follows:
 1. Labor - For all labor and for foremen in direct charge of the specific operations, the Contractor shall receive the actual rate of wage in effect at the time the force account is performed for each and every hour that said laborer, and foreman are actually engaged in such work. Said agreed rate shall be no higher than that regularly paid the employee. A foreman shall not be used where there are fewer than two laborers employed except with the written consent of the Engineer.

The Contractor shall receive the actual costs paid to or in behalf of workmen by reason of fringe benefits including but not limited to social security contribution, unemployment, excise and payroll taxes, workmen's compensation, health and retirement benefits, sick leave, vacation and holiday pay.

Expense of working after hours, on holidays or on Saturdays and Sundays shall be included to the extent authorized by the Engineer.

Subsistence and travel allowance where required by collective bargaining agreements shall be included.

The charges for labor shall include all classifications through foremen when engaged in the actual and direct performance of the work. They shall not include charges for such overhead personnel as assistant superintendents, office personnel, timekeepers, and maintenance mechanics. An amount equal to 10 percent of the sum of the above items will also be paid the Contractor.

2. Bonds and Insurance. For bonds and insurance premiums or increases thereto necessitated by the force account work, the Contractor shall receive the actual cost to which no percent shall be added. The Contractor shall furnish satisfactory evidence of the rate or rates paid for such bond and insurance.
3. Materials. For materials accepted by the Engineer and used as an integral part of the finished work, the Contractor shall receive the actual cost of such materials delivered on the work, including transportation charges paid by him (exclusive of machinery rentals as hereinafter set forth), to which cost shall be added an amount equal to 10 percent of the sum thereof.

For other materials used in the construction which are not an integral part of the finished work, such as but not limited to sheeting, false work and form lumber, the Contractor shall be reimbursed in the amount agreed upon by the Engineer before such work is begun. The salvage value of such material will be taken into consideration in determining the amount of reimbursement.

4. Equipment for machinery or special equipment other than small tools the use of which has been authorized by the Engineer, the rental rates, including fuel and lubricant but excluding operators, shall be no more than the current rates recommended by the associated Equipment Distributors based on the weekly rental rate converted into hours, assuming a 40-hour week with eight-hour days. Small tools shall be defined as individual pieces of equipment or tools having a new value of \$500 or less.

Equipment on the Work. The rental time to be paid for equipment on the Work shall be the time the equipment is required for the force account work being performed. Moving time, loading, unloading and hauling will not be paid for if the equipment is used at the site of the force account work on other than such force account work.

Equipment not on the Work. For the use of equipment moved in on the Work or used exclusively for work paid for a force account basis, the Contractor will be paid the rental rates hereinbefore specified.

The rental period shall begin at the time the equipment is unloaded at the site of the force account work, shall include each day or fraction thereof that the equipment is at the site of the force account work, excluding Saturdays and Sundays and other legal holidays unless the force account work is performed on such days, and shall terminate at the end of the day on which the Engineer directs the Contractor to discontinue the use of such equipment. The maximum rental time to be paid per day will not exceed eight hours unless the equipment is in operation for a longer time.

When the Owner is obligated to pay for idle equipment the allowance will be 75 percent of the rate described hereinabove.

5. Compensation

The compensation as set forth above shall be received by the Contractor as payment in full for work done on a force account basis. At the end of each day the Contractor's representative and the Owner's Representative shall compare records of the work performed including classification of all laborers, ordered on a force account basis.

6. Statements. No payment will be made for work performed on a force account basis until the Contractor furnishes the Engineer itemized statements of the cost of such force account work detailed as to the following:
 - a. Name, classification, date, daily hours, total hours, rate, and extension for each laborer and foreman.
 - b. Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.
 - c. Quantities of materials, prices including transportation cost and extensions.
 - d. Cost of bonds and insurance premiums.
 - e. Payments of items under Paragraph a. to d. inclusive shall be accompanied by original receipted invoices for materials used and transportation charges. If, however, the materials used in the force account work are not specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the original invoices the statements shall contain or be accompanied by an affidavit of the Contractor which shall certify that such materials were taken from this stock, that the quantity claimed was actually used and that the price and transportation of the material as claimed represent actual cost.
7. Subcontractor's reimbursement for work performed on a force account basis shall be computed in precisely the manner set forth hereinabove. One additional allowance of five percent of the total amount of Subcontractors' costs will be granted the Contractor regardless of the tier of the Subcontractor.

14.1.1 If directed, the Contractor shall submit to the Engineer three qualified bids for extra or changed work and materials, if similar work is not being performed at the job site. If directed, the Contractor shall submit daily time charges to the Engineer each day for Change Order work.

14.2 Extensions of time, when granted, will be based upon the effect of delays to the Work as a whole. Extensions of time will not be granted for non-controlling delays to minor included portions of Work unless it can be shown that such delays did, in fact, delay the progress of the Work as a whole. Extensions of time will not be granted until such time as the Engineer is satisfied they are appropriate and justified.

- 14.3 Where the actual quantity of Work for any pay item varies more than 25 percent above or below the estimated quantity stated in the Contract Documents, an equitable adjustment will be considered upon request of either party. The equitable adjustment shall be based upon any increase or decrease in unit costs due solely to the variation above 125 percent or below 75 percent of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completion, the Engineer shall, upon receipt of a written request for an extension of time, ascertain the facts and make such adjustment for extending the completion date as in his judgement the findings justify in accordance with the provisions of Article 14.2.

Article 15. TIME FOR COMPLETION AND LIQUIDATED DAMAGES

- 15.1 The date of beginning and the time for completion of the Work are essential conditions of the Contract Documents and the Work embraced shall be commenced on the date specified in the Notice to Proceed.
- 15.2 The Contractor shall proceed with the Work at such rate of progress to insure full completion within the Contract Time. It is expressly understood and agreed by and between the Contractor and Owner that the Contract Time for the completion of the Work described herein is a reasonable time, taking into consideration the average climate and economic conditions and other factors prevailing in the locality of the Work.
- 15.3 If the Contractor shall fail to complete the Work within the Contract Time, or extension of time granted by the Engineer, then the Contractor shall pay to the Owner the amount for liquidated damages as specified in the Bid Form for each calendar day that the Contractor shall be in default after the time or date stipulated thereon; and the Owner may deduct the same from monies due from current progress payments or to become due to the Contractor otherwise.
- 15.3.1 Should the Contractor abandon performance of the Work, the Owner shall have the right to complete the Work with its own or other forces, and the liquidated damages provisions set forth herein as well as other provisions of the contract shall remain in effect, and such liquidated damages provisions shall not be construed to be a substitute for damages caused by increased cost of the Work but shall be compensatory only for delay in completion of the Contract.
- 15.3.2 This paragraph does not exclude the recovery of damages by either party under other provisions of the Contract Documents.
- 15.4 The Contractor will not be charged with liquidated damages or any excess cost when the delay in completion of the Work is due to the following and the Contractor has given written notice of such delay to the Engineer within seven days of the occurrence.
- 15.4.1 The unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to acts of God or of the public enemy, acts of the Owner, acts of another Contractor in the performance of a contract with the Owner, fires, floods, epidemics, quarantine restriction, strikes, freight embargoes, and unusually severe weather so documented by the Contractor.

- 15.4.2 To any delays of Subcontractors occasioned by any of the causes specified in Paragraph 15.4.1 of this article.
- 15.5. No claim by the Contractor for an extension of Contract Time will be allowed based on Work performed under Change Order which increases or decreases the amount due under the Contract Documents unless a time extension is granted pursuant to Article 14.2 as part of the Change Order.

Article 16. CORRECTION OF WORK

- 16.1 The Contractor shall promptly remove from the premises all Work rejected by the Engineer for failure to comply with the Contract Documents whether incorporated in the construction or not, and the Contractor shall promptly replace and re-execute the Work in accordance with the Contract Documents and without expense to the Owner and shall bear the expense of making good all Work of other Contractors destroyed or damaged by such removal or replacement.
- 16.2 All removal and replacement Work shall be done at the Contractor's expense. If the Contractor does not take action to remove such rejected Work within ten days after receipt of written notice, the Engineer may remove such Work and store the materials at the expense of the Contractor.
- 16.3 Unauthorized work - Any Work which may be done or materials ordered by the Contractor prior to receipt of the Notice to Proceed, incorporation of previously rejected Work, Work done contrary to or regardless of the instructions of the Engineer, extra work performed without written authority from the Engineer, Work done beyond the limits shown on the Plans, except as herein specified or any extra Work done without written authority from the Engineer, will be considered as unauthorized and may not be paid for. Work so done may be ordered removed or replaced at the Contractor's expense.

Article 17. CHANGED CONDITIONS

- 17.1 The Contractor shall within seven days, and before such conditions are disturbed, except in the event of an emergency, notify the Engineer by written notice of:
- 17.1.1 Subsurface or latent physical conditions at the site differing materially from those indicated in the Contract Documents, or
- 17.1.2 Unknown physical conditions at the site of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in Work of the character provided for in the Contract Document.
- 17.2 The Engineer will promptly investigate the conditions, and if he finds that such conditions do materially so differ and cause an increase or decrease in the cost of, or in the time required for performance of the Work, an equitable adjustment will be made and the Contract Documents will be modified by a Change Order. Any claim of the Contractor adjustment hereunder shall not be allowed unless he has given the required written notice; provided that the Engineer may, if he determines the facts so justify, consider and adjust any such claims asserted before the date of final payment.

Article 18. PHYSICAL DATA

- 18.1 It is understood that except as otherwise specifically stated in the Contract Drawings, the Owner has not conducted subsurface test borings of the area in which the Work is to be performed.

Article 19. SUSPENSION OF WORK, TERMINATION AND DELAY

- 19.1 The Owner may order the Contractor in writing to suspend, delay, or interrupt all or any part of the Work for such period of time as it may determine to be appropriate for the convenience of the Owner.

- 19.1.1 If the performance of all or any part of the Work is, for an unreasonable period of time, suspended, delayed, or interrupted by his failure to act within a reasonable time, an adjustment shall be made for any increase in the cost of performance of this Contract necessarily caused by such unreasonable suspension, delay or interruption and the Contract modified by Change Order accordingly.

However, no adjustment shall be made under this clause for any suspension, delay or interruption to the extent: 1) that performance would have been so suspended, delayed or interrupted by any other cause, including the fault or negligence of the Contractor or 2) for which an equitable adjustment is provided for or excluded under any other provision of these Contract Documents.

- 19.1.2 No claim under this article shall be allowed (1) for any costs incurred more than seven days before the Contractor shall have notified the Engineer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order), and (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of such suspension, delay or interruption, but not later than the date of final payment under the Contract.

- 19.2 If the Contractor is adjudged bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the Contractor or for any of his property, or if he files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or applicable laws, or if he repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he repeatedly fails to make prompt payments to subcontractors for labor, materials or equipment, or if he refuses or fails to prosecute the Work or any separable part thereof, with such diligence as will insure its completions within the Contract Time, or if he fails to complete said work within said time, or if he disregards laws, ordinances, rules, regulations, directions or orders of any public body having jurisdiction over the Work or if he disregards the authority of the Engineer, or if he otherwise violates any provision of the Contract Documents, then the Owner may, without prejudice to any other right or remedy and after giving the Contractor and his surety a minimum of ten days from delivery of a Written Notice, terminate the services of the Contractor and take possession of the Project and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor, and finish the Work by whatever method it may deem expedient. In such case, the Contractor will not be entitled to receive any future payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct and indirect costs of completing the Contract Project, including compensation for additional professional services, such excess will be paid to the Contractor

except that the maximum payment will not exceed 10 percent of the original contract. If such costs exceed such unpaid balance, the Contractor shall pay the difference to the Owner. Such costs incurred by the Owner will be determined by the Engineer and incorporated in a Change Order.

- 19.3 Termination of the Contract for any of the above-listed causes, including delinquency of the Contractor during restoration may result in disqualification of the Contractor from bidding on future Owner contracts.
- 19.4 Where the Contractor's services have been so terminated by the Owner, said termination shall not affect any right of the Owner against the Contractor then existing or which may thereafter accrue. Any retention or payment of monies by the Owner due the Contractor will not release the Contractor from compliance with the Contract Documents.
- 19.5 After ten days from delivery of a Written Notice to the Contractor, the Owner may, without cause and without prejudice to any other right or remedy, elect to abandon the Project and terminate the Contract. In such case, the Contractor shall be paid for all Work executed and any expense sustained therefrom plus reasonable profit for that portion of the Work completed at the date of termination.
- 19.6 If through no act or fault of the Contractor, the Work is suspended for a period of more than 90 days by the Owner or under an order of court or other public authority, or the Engineer fails to respond to any request for payment within 30 days after it is submitted, or the Owner fails to pay the Contractor substantially the sum approved by the Engineer or awarded by arbitrators within 30 days of its approval and presentation, then the Contractor may, after ten days from delivery of a Written Notice to the Engineer, terminate the Contract and recover from the Owner payment for all Work executed and all expenses sustained. In addition and in lieu of terminating the Contract, if the Engineer has failed to respond to a request for payment or if the Owner has failed to make any payment as aforesaid, the Contractor may upon ten days Written Notice to the Engineer stop the work until he has been paid all amounts then due, in which event and upon resumption of the Work, Change Orders will be issued for adjusting the Contract Price, extending the Contract Time, or both to compensate for the costs and delays attributable to the stoppage of the Work.
- 19.7 If the performance of all or any portion of the Work is suspended, delayed or interrupted as a result of a failure of the Engineer to act within the time specified in the Contract Documents, or if no time is specified, within a reasonable time, an extension of the Contract Price, Time or both, shall be made by Change Order to compensate the Contractor for the costs and delays necessarily caused by the failure of the Engineer.

Article 20. USE OF THE PREMISES

- 20.1 The Owner will have the right to enter the premises for the purpose of doing Work not covered by the Contract Documents. This provision shall not be construed as relieving the Contractor of the sole responsibility for the care and protection of the work or the restoration of any damaged Work, except such as may be caused by agents or employees of the Owner.

- 20.2 Prior to the date of Substantial Completion, the Owner, with the concurrence of the Contractor, may use any completed or substantially completed portion of the work. Such use shall not constitute an acceptance of such portions of the Work.

Article 21. SUBSTANTIAL COMPLETION FOR A PORTION OF THE WORK

- 21.1 Whenever the Engineer determines that a portion of the Work is in an apparent acceptable condition and that placing that portion of work into operation will result in a benefit to the Owner, that portion of the Work shall be tested for issuance of a certificate of substantial completion. Upon issuance of the certificate of substantial completion by the Engineer it shall be placed into beneficial operation. The date of substantial completion shall be the effective commencement date for any guarantee applicable as described in Article 31. The Contractor shall be advised of operation and maintenance responsibility commencing with the date of substantial completion.
- 21.2 All written conditions, if any, of the certificate of substantial completion are binding on the Contractor. Failure to comply with such conditions within the time stated therein will be cause for recession of certification of substantial completion and recession of commencement of the guarantee. Substantial completion and commencement of the guarantee may be reinstated upon reissuance of a certificate of substantial completion by the Engineer as set for above.

Certificate of substantial completion does not relieve the Contractor of his responsibilities under any of the provisions of these Contract Documents unless explicitly noted herein and/or in the written certificate of substantial completion.

Written consent of Surety and endorsement from the insurance carrier or carriers permitting prior occupancy or use of any completed or partially completed portions of the Work by the Owner shall be secured and submitted to the Engineer prior to issuance of certificate of substantial completion.

- 21.3 Until approval of the final estimate for the entire Contract by the Owner, it shall be the Contractor's responsibility to protect and insure all portions of the work in beneficial operation against damages resulting from vandalism, theft, floods, fires and malfunction due to other equipment or Work not yet placed into beneficial operation, unless such damage is the direct result of negligence on the part of Owner personnel or fair wear and tear. Should repairs be required due to any reasons other than the exceptions stated above, they shall be performed at no expense to the Owner, and the guarantee commitment date shall be modified to coincide with the date of re-acceptance in accordance with the provisions set forth herein.
- 21.4 Should the contractor be unable to perform repairs, the Engineer may direct that the necessary repairs be performed by others, and the cost therefor be deducted from monies owed the Contractor. In such a case, the guarantee commitment date shall be modified to coincide with the date of completion of repairs by others.

Article 22. PAYMENTS TO THE CONTRACTOR

- 22.1 At least ten (10) days before each progress payment falls due the Contractor shall submit to the Engineer a partial payment estimate filled out and signed by the Contractor covering the Work performed during the period covered by the partial payment estimate and supported by such data

as the Engineer may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the work, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the Engineer, as will protect the Owner's interests therein, including applicable insurance. The Contractor shall submit to the Engineer paid invoices for stored materials, if the Contractor includes these costs in his payment requests. See paragraph 22.2. The Engineer will, within ten (10) days after receipt of each partial payment estimate, either indicate in writing his approval of payment and present the partial payment estimate for processing, or return the partial payment estimate to the Contractor indicating in writing his reasons for refusing to approve payment. In the latter case, the Contractor may make the necessary corrections and resubmit the partial payment estimate. The Owner will retain ten percent of the amount of each payment until final completion and acceptance of all Work covered by the Contract Documents. The Owner may at any time, however, after 50 percent of the work has been completed, if it finds that satisfactory progress is being made, may reduce the percent retainage to five percent on the current and remaining estimates. When the work is substantially complete, the retained amount may be further reduced to only that amount necessary to assure completion. On completion and acceptance of a part of the work on which the price is stated separately in the Contract Documents, payment may be made in full, including retained percentages less authorized deductions.

22.1.1 Prior to receiving each payment, the Contractor shall certify in writing that he has made payment from proceeds of prior payments and that he will make timely payments from the proceeds of progress and final payment then due him, to his subcontractors and suppliers in accordance with his Contractual arrangements with them.

22.2 The request for payment may also include an allowance for the cost of major materials and equipment not yet incorporated in the Work.

22.2.1 Payment Allowance - When requested in writing by the Contractor and approved by the Engineer, payment allowance will be made for non-perishable major materials and equipment to be incorporated in the work delivered and stockpiled at the Work site or other approved site. Material for which payment has been made, wholly or partially, shall not be removed from the Work site or other approved site.

22.2.2 Payment Allowance for undelivered specially manufactured items or equipment: Payment allowance may be made for undelivered specially manufactured items or equipment, subject to the following stipulations:

The equipment is to be specifically manufactured for this Contract and cannot readily be utilized on nor diverted to another job.

Fabrication period for the equipment of more than six months is anticipated.

The Contractor agrees to submit either acceptance negotiable securities without recourse, conditions or restrictions, or a progress payment bond, or an irrevocable letter of credit in the total amount of the payment allowance to be claimed under these provisions.

Limitations of payment allowances for undelivered items or equipment will be as follows:

A first payment shall be made upon approval by the Engineer of shop drawings in an amount not exceeding ten percent of the item price plus appropriate and allowable higher-tier costs;

Subsequent to the Owner's release or approval for manufacture of said shop drawings, additional payments shall be made not more frequently than monthly thereafter, up to 75 percent of the item price plus appropriate and allowable higher-tier costs. Progress payments shall be proportioned equally so that the final payment of 75 percent will correspond with the date the fabrication is completed, and preliminary O&M manuals have been approved. Ancillary on-site Work prior to delivery of such specifically manufactured equipment or items shall be paid for in accordance with provisions of paragraph 22.1.

In no case, shall progress payments for such equipment or items be made in an amount greater than 75 percent of the cumulative incurred costs allowable to Contract performance with respect to such equipment or items. Requests for payment allowance under this paragraph shall be accompanied by a certification furnished by the fabricator of the equipment or item stating that the amount of progress payment claimed constitutes the actual cost in no case more than 75 percent of the cumulative incurred cost allowable to the Contract performance, or in the case of the first payment allowance request, a certification that the amount claimed does not exceed 10 percent of the item price quoted by the fabricator.

Payment to the Contractor under this paragraph for materials on hand or on order in no way will be construed as acceptance by the Owner of title to the material. Title shall remain with the Contractor until the Project has been completed and accepted in accordance with provisions herein.

- 22.3 Upon completion and acceptance of the Work, the Engineer will issue a certificate attached to the final payment request with a copy sent to the Contractor that the Work has been accepted by him under the conditions of the Contract Documents. The entire balance found to be due the Contractor, including the retained percentages but except such sums as may be lawfully retained by the Owner, will be paid to the Contractor within 30 days of completion and acceptance of the Work.
- 22.4 The Contractor shall furnish to the Owner a Maintenance Bond as described in Article 25 to be in effect for the guarantee period(s) set forth in Article 31.
- 22.5 The Contractor shall indemnify and save the Owner's agents harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, materialmen and furnishers of machinery and parts thereof, equipment, tools and all supplies incurred in the furtherance of the performance of the Work. The Contractor shall, at the Engineer's request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged or waived. If the Contractor fails to do so the Owner may, after having notified the Contractor, either pay unpaid bills or withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the Contractor will be resumed in accordance with the terms of the Contract Documents, but in no

event shall the provisions of this sentence be construed to impose any obligations upon the Owner to either the Contractor, his Surety, or any third party. In paying any unpaid bills of the Contractor, any payment so made by the Owner will be considered as a payment made under the Contract Documents by the Owner to the Contractor and the Owner will not be liable to the Contractor for any such payments made in good faith.

Article 23. ACCEPTANCE OF FINAL PAYMENT AS RELEASE

- 23.1 The acceptance by the Contractor of final payment shall be and shall operate as a release to the Owner from all claims and all liability to the Contractor other than claims submitted as specified elsewhere in stated amounts as may be specifically excepted by the Contractor for all things done or furnished in connection with the Work and for every act and neglect of the Owner and others relating to or arising out of this Work.
- 23.2 The Owner shall not be precluded or stopped by any measurement, estimate, or certificate made either before or after the completion and acceptance of the Work and payment therefor, from showing the true amount and character of the Work performed and materials furnished by the Contractor, nor from showing that any such measurement, estimate or certificate is untrue or is incorrectly made, nor from showing that the Work or materials do not in fact conform to the Contract. The Owner shall not be precluded or stopped, notwithstanding any such measurement, estimate or certificate and payment in accordance therewith, from recovering from the Contractor or his Sureties, or both, such damage as it may sustain by reason of his failure to comply with the terms of the Contract.
- 23.3 Neither the acceptance by the Owner or any representative of the Owner nor any payment for or acceptance of the whole or any part of the Work, nor any extension of time, nor any possession taken by the Owner, shall operate as a waiver of any portion of the Contract or of any power herein reserved, or of any right to recover damages.

The waiver of any breach of the Contract shall not be held to be waiver of any other or subsequent breach.

Article 24. INSURANCE

- 24.1 The Contractor shall purchase and maintain insurance meeting requirements specified herein as will protect him from consequential liability which may arise out of or result from the Contractor's execution of the Work, whether done personally or by any Subcontractor or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable.

24.1.1 Certificates of insurance shall be filed with the Owner within ten (10) days after receipt of the Notice of Award. These certificates shall contain a provision that policy coverage will not be cancelled, altered or materially changed without 30 days prior written notice provided to the Owner, via registered or certified mail, to the address below:

Town of Poolesville
P.O. Box 158
Poolesville, MD 20837

- 24.2 The Contractor shall provide the following:

24.2.1 General Public Liability and Property Damages (including vehicles):

Such coverage as will protect the Contractor and Owner from claims for damages because of:

- 24.2.1.1 Injury to or destruction of tangible property, including loss of use resulting therefrom;
- 24.2.1.2 Bodily injury, sickness or disease or death of any person other than those under direct employment of the Contractor;
- 24.2.1.3 Personal injury sustained by any person as a result of an offense directly or indirectly related to the employment of such person by the Contractor or by any other person;
- 24.2.1.4 Employee disability and other similar employee benefit acts, including occupational sickness, disease or employee fatalities. Specific insurance coverage requirements include:

24.2.2 Workers' Compensation and Employers' Liability Policy

- 24.2.2.1 Section A - Statutory limits of state in which work is to be performed.
- 24.2.2.2 Section B (Employer's Liability) - \$100,000.00 each accident.

24.2.3 Comprehensive General Liability

- 24.2.3.1 Blanket Contractual Coverage
 - Bodily Injury - \$500,000.00 each occurrence
 - Property Damage - \$250,000.00 each occurrence
- 24.2.3.2 Independent Contractors Coverage
 - Bodily Injury - \$500,000.00 each occurrence
 - Property Damage - \$250,000.00 each occurrence
- 24.2.3.3 Products and Completed Operations Coverage
 - \$500,000.00 aggregate applicable to Bodily Injury and
 - \$250,000.00 each occurrence applicable to Property Damage
- 24.2.3.4 Personal Injury Coverage (Sections A, B and C)
 - \$500,000.00 aggregate

Comprehensive General Liability Policy containing an endorsement indicating that the U (Underground) exclusion applicable to a contractor's policy has been deleted, with policy limits accordingly afforded at \$250,000.00 for each occurrence of Property Damage.

24.2.3.5 Deletion of XC Exclusions:

For certain work, the Comprehensive General Liability Policy shall contain an endorsement indicating that the XC (Explosion and Collapse) exclusions applicable to a Contractor's policy have been deleted. Policy limits shall be as specified above for each occurrence of Property Damage. The XC exclusions must be deleted under the following conditions:

24.2.3.5.1 Water Main, Sewer Main, and Storm Drain Construction Contracts:

Whenever explosives of any type are to be used to perform Work as set forth in the contract, and when deemed necessary in the best interests of the Owner.

24.2.3.5.2 Building and Facilities Construction Contracts:

On all contracts under which the contractor will be constructing buildings and/or facilities.

24.2.4 Comprehensive Automobile Liability Applicable to owned, non-owned and hired vehicles

Bodily Injury - \$250,000.00 each person
\$500,00.00 each occurrence.

Property Damage - \$100,000.00 each occurrence.

24.2.5 Excess Liability (Umbrella Form)

24.2.5.1 \$1,000,000.00 with a retention rate not to exceed \$50,000.00 where no underlying coverage exists.

24.3 Supplemental Coverage:

The Contractor shall supply the following additional insurance coverage:

24.3.1 Fire Legal Liability Insurance or Broad Form Property Damage Coverage which contains no water damage exclusion;

Coverage shall be in the amount of the current repair and replacement value of such facility, to include the contents, boilers and machinery contained within such facility.

Article 25. CONTRACT SECURITY

- 25.1 The Contractor shall within 10 days after the date of the Notice of Award furnish the Owner a Performance Bond in penal sum equal to 100 percent of the amount of the Contract Price, and a Payment Bond and a letter of intent to issue Maintenance Bond in penal sums equal to 100 percent of the amount of the Contract Price. Bonds shall be conditioned upon the performance by the Contractor of all undertakings, covenants, terms, conditions and agreement of the Contract Documents, and upon the prompt payment by the Contractor to all persons supplying labor, materials and services in the prosecution of the Work provided by the Contract Documents. The Maintenance Bond shall bind the Contractor as principal and the surety to promptly and properly replace any improper work or materials that may become apparent within a period of 12 months following substantial completion or final acceptance as specified in Article 31.

Such Bonds shall be executed by the Contractor and a corporate bonding company licensed to transact such business in the State of Maryland and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570. The expense of these Bonds shall be borne by the Contractor. If at any time a surety on any such Bond is declared a bankrupt or loses its right to do business in the State of Maryland or is removed from the list of Surety Companies accepted on Federal Bonds, the Contractor shall substitute an acceptable Bond (or Bonds) in such form and sum and signed by such other surety or sureties as may be satisfactory to the Owner. The premiums on such Bond shall be paid by the Contractor. No further payments shall be deemed due nor shall be made until the new surety or sureties shall have furnished an acceptable Bond to the Owner.

- 25.2 Should the Contact Price be increased by 25 percent or more before Final Acceptance, the amount of the Maintenance Bond shall be increased accordingly.

Article 26. ASSIGNMENTS

- 26.1 Neither the Contractor nor the Owner shall sell, transfer, assign or otherwise dispose of the Contract or any portion thereof, or of his right, title or interest therein, or his obligations thereunder, without written consent of both parties.

Article 27. INDEMNIFICATION

- 27.1 The Contractor shall defend, indemnify and save harmless the Owner from all suits, actions and damages or costs of every name and description to which the Owner may be subject or put by reason of injury to persons (bodily injury, including death, or any personal injury) or property damage as a result of the Work whether caused or alleged to be caused by the negligence, carelessness or willfulness on the part of the contractor, his servants or agents, or on the part of the Owner, its servants or agents, or other cause. Monies due or to become due the Contractor under the Contract as may be considered necessary by the Owner shall be retained by the Owner until such suits or claims for damages shall have been settled or otherwise disposed of or satisfactory evidence to that effect has been furnished to the Owner.

Article 28. SEPARATE CONTRACTS

- 28.1 The Owner reserves the right to let other contracts in connection with this Project. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their Work and shall properly connect materials and the execution of their Work and shall properly connect and coordinate his Work with theirs. If the proper execution or results of any part of the Contractor's work depends upon the Work of any other contractor, the Contractor shall inspect and promptly report to the Engineer any defects in such Work that render it unsuitable for such proper execution and results.
- 28.2 The Owner may perform additional Work related to the Project by itself, or it may let other contracts containing provisions similar to these. The Contractor shall afford the other contractors who are parties to such contracts, the Owner, if it is performing the additional Work itself, reasonable opportunity for the introduction and storage of materials and equipment and the execution of Work and shall properly connect and coordinate his Work with theirs.
- 28.3 If the performance of additional Work by other contractors or the Owner is not noted in the Contract Documents prior to the execution of the Contract, Written Notice thereof shall be given to the Contractor prior to starting any such additional Work. If the Contractor believes that the performance of such additional Work by the Owner or others results in additional expense to the Contractor or entitles him to an extension of the Contract Time, he may make a claim therefor as provided in Section 13 and 14.

Article 29. SUBCONTRACTING

- 29.1 The Contractor may utilize the services of specialty Subcontractors on those parts of the Work which, under normal contracting practices are performed by specialty Subcontractors, within the parameters set forth herein and in the Information for Bidders.
- 29.2 The Contractor shall not award Work to Subcontractors in excess of 50 percent of the Contract Price without prior approval of the Contracting Officer.
- 29.3 The Contractor shall be fully responsible to the Owner for the acts and omissions of his Subcontractors and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.
- The Contractor shall be fully responsible for the coordination of the Work of the trades, Subcontractors and suppliers and their officers, agents and employees.
- 29.4 The Contractor shall cause appropriate provisions to be inserted in all sub-contracts relative to the work to bond Subcontractors to the Contractor by the terms of the Contract Documents insofar as applicable to the Work of Subcontractors and to give the Contractor the same power as regards terminating any subcontract that the Owner may exercise over the Contractor under any provision of the Contract Documents.
- 29.5 Nothing contained in the Contract Documents shall create any contractual arrangement between any Subcontractor and the Owner.

Article 30. ENGINEER'S AND OWNER'S REPRESENTATIVE'S AUTHORITY

- 30.1 The Engineer will act as the Owner's representative during the construction period. He shall decide questions which may arise as to quality and acceptability of materials furnished and work performed. He will within a reasonable time, make decisions relative to interpretation of the Contract Documents in a fair and unbiased manner. The decisions of the Engineer shall be final and binding upon the parties unless, within 10 days of the Engineer's decision, the Contractor files with the Engineer and the Contracting Officer a written notice of appeal to the Contracting Officer. The Engineer will make visits to the site and determine if the Work is proceeding in accordance with the Contract Documents.
- 30.2 The Contractor will be held strictly to the intent of the Contract Documents in regard to the quality of materials, workmanship and execution of the work. Inspections may be made at the factory or fabrication plant of the source of material supply.
- 30.3 The Engineer will not be responsible for the construction means, controls, techniques, sequences, procedures or construction policy.
- 30.4 Authority and Duties of Owner's Representatives
- 30.4.1 Owner's Representatives are authorized agents of the Owner and shall be authorized to observe all Work done and all material furnished. Such observation may extend to all or any part of Work and to the preparation, fabrication or manufacture of the materials to be used. Owner's Representatives are not authorized to revoke, alter or waive any requirements of the contract, nor are they authorized to approve or accept any portion of the complete Project. They are authorized to call the attention of the Contractor to any failure of the Work or materials to conform to the Contract. They will have the authority to reject materials or suspend the Work until any questions at the issue can be referred to and decided by the Engineer. Owner's Representatives will perform their duties at such times and in such manner as will not unnecessarily impede progress on the Contract.
- 30.4.2 The Owner's Representative will in no case act as foreman or perform other duties for the Contractor, nor interfere with the management of the Work by the latter. Any advice which the Owner's Representatives may give the Contractor shall not be construed as binding the Engineer in any way, or releasing the Contractor from fulfilling all of the terms of the Contract.
- 30.4.3 Where there is disagreement between the Contractor (or his representative superintendent) and the Owner's Representatives, such as refusal by the Contractor to use properly approved materials; or performing Work not in compliance with the Contract Documents; and refusing to suspend Work until problems at issue can be referred to a decision by the Engineer, the Owner's Representatives will immediately direct the Engineer's attention to the issues of disagreement and if the Contractor still refuses to make corrections, comply or suspend Work, the Engineer will prepare and deliver in writing to the Contractor, by mail or otherwise, a written order suspending the work and explaining the reason for such shutdown. As soon as the Owner's Representatives are advised of the delivery of the shutdown order, the Owner's Representatives will immediately leave the site of the Work. Work performed during the Owner's Representatives' absence will not be accepted or paid for and may be required to be removed and disposed of at the Contractor's expense at no additional cost to the Owner.

Article 31. GUARANTEE

- 31.1 The Contractor shall guarantee all materials and equipment furnished and Work performed for a period of one year from the date of Final Contract Acceptance. The Contractor warrants and guarantees that the completed Work is free from all defects due to faulty materials, equipment and workmanship, as further described in Section 01000, and the Contractor shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the work resulting from such defects. The Owner will give notice of observed defects with reasonable promptness. In the event that the Contractor should fail to make such repairs, adjustments or other Work that may be made necessary by such defects, the Owner may do so and charge the Contractor the cost thereby incurred.

Article 32. CLAIMS, DISPUTES AND ARBITRATION

- 32.1 Any claim, dispute or other matters in question between the Contractor and the Owner arising under the terms and provisions of this Contract, including without limitation a claim for breach of contract, shall be referred initially to the Engineer for decision, within the time period established by other applicable provisions of these General Conditions, or if non-established, within 30 days of the event giving rise to the claim, dispute or other matter. Thereafter, the Contractor shall document his position on the claim, dispute or other matter within 30 days by filing with the Engineer a written presentation setting forth in detail the Contractor's position and entitlement to relief. Failure to adequately document a claim, dispute or other matter in a timely manner shall constitute an abandonment of the claim, dispute or other matter initially referred to the Engineer for decision. The Engineer's decision shall be final and binding upon the parties, unless within 10 days of the Engineer's decision, the Contractor files with the Engineer and the Contracting Officer a written notice of appeal to the Contracting Officer. The Contractor will carry on the Work and maintain the progress schedule pending the decision of the Engineer and during any appeal proceedings unless otherwise mutually agreed in writing. Any claim or dispute referred to the Contracting Officer involving \$10,000 or more shall be subject to judicial review on the record by the Court of Montgomery County under the B Rules of Chapter 1100 of the Maryland Rules of Procedure.
- 32.2. Any claim, dispute or other matter regarding the terms of this Contract or performance thereunder that has been referred initially to the Engineer for decision, may be decided by arbitration if the parties mutually agree, or in a court of competent jurisdiction within the State of Maryland. Should both parties agree to arbitration, the decision shall be made either by:
- 32.2.1 A neutral person or entity selected by or in accordance with a procedure established by the President of the Commissioners of Poolesville; or
- 32.2.2 In the event that the other party does not accept as neutral a person or entity selected under paragraph 32.2.1 by an arbitration panel composed of the following:
- 32.2.2.1 One member designated by the President of the Commissioners of Poolesville;
- 32.2.2.2 One member of designated by the other party to the dispute; and

- 32.2.2.3 One member to be selected by mutual agreement of the two designated members from lists to be submitted by the parties to the dispute.

Within 30 days of the filing of the notice of appeal to the neutral person, entity or arbitration panel, the Contractor shall file with such person, entity or panel and the Engineer, the written presentation described above amplified and modified as necessary by the written presentation. Failure to adequately document a claim, dispute or other matter in a timely manner shall constitute an abandonment of the appeal and acceptance of the Engineer's decision as final and binding on the parties. Within 20 days of the filing of the Contractor's written presentation, the Engineer shall file with the neutral person, entity or arbitration panel, a written presentation, setting forth in detail the Engineer's position. The neutral person, entity or arbitration panel may convene an informal hearing upon 5 days notice to both parties, or request either party to supply additional written information. The person, entity or panel shall issue a decision in writing within 45 days after receipt of the Contractor's written presentation. The decision shall be final and binding on the parties.

- 32.3 Subject to the limitations and conditions imposed herein, the terms and provisions of this Contract, including without limitations a claim for breach thereof, are subject to interpretation under the laws of the State of Maryland, and any dispute arising thereunder is subject to binding arbitration under the Construction Industry Arbitration Rules of the American Arbitration Association.
- 32.4 A demand for arbitration shall be filed in writing with the other party of the Contract Documents and with the American Arbitration Association, and a copy shall be filed with the Engineer and the Contracting Officer. Demand for arbitration shall in no event be made on any claim, dispute or other matter in question which would be barred by the applicable statute of limitations or by the provisions of this Article. Arbitration proceedings shall be held in Gaithersburg, Maryland, unless otherwise mutually agreed upon.
- 32.5 The Contractor will carry on the Work and maintain the progress schedule during any appeal or arbitration proceedings, unless otherwise mutually agreed in writing.

Article 33. TAXES

- 33.1 The Contractor shall pay all Federal, State and local taxes for materials furnished under this Contract.

Article 34. OFFICIAL NOT TO BENEFIT

- 34.1 No officer or employee of the Owner shall be admitted to any share or part of the Contract or any benefit that may arise therefrom, and any contract entered into by the Owner in which any officer or employee of the Owner shall be personally interested shall be void, and no payment shall be made thereon by the Owner or any officer thereof; but this provision shall not be construed to extend to the Contract if made with a corporation for its general benefit.

Article 35. BRIBES

- 35.1 A bribe or attempt to bribe any employee or officer of the Owner by the Contractor shall be considered as execution of the Contract in bad faith, and shall thus empower the Owner to complete the work and deduct the entire cost thereof from any monies due or to become due the Contractor under the Contract, all set forth in Article 19.

END OF GENERAL CONDITIONS

GENERAL REQUIREMENTS

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
 - 1. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
 - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
 - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 ACTION SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use facsimile of form provided in Project Manual.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
 - b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.

- c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for Project, from the applicable code organization.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Owner's Action: If necessary, Owner will request additional information or documentation for evaluation within ten days of receipt of a request for substitution. Architect will notify Contractor through Construction Manager of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
1. Conditions: Owner will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Owner will return requests without action, except to record noncompliance with these requirements:
- a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Substitution request is fully documented and properly submitted.
 - c. Requested substitution will not adversely affect Contractor's construction schedule.
 - d. Requested substitution is compatible with other portions of the Work.
 - e. Requested substitution has been coordinated with other portions of the Work.
 - f. Requested substitution provides specified warranty.
 - g. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Not allowed.

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Requirements:
 - 1. Section 012500 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.

1.3 MINOR CHANGES IN THE WORK

- A. Owner will issue through Construction Manager supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on form included in Project Manual.

1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Construction Manager will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests issued by Construction Manager are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within 20 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and

finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

- e. Quotation Form: Use forms acceptable to Owner.

- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Construction Manager.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
7. Proposal Request Form: Use form acceptable to Architect.

1.5 ADMINISTRATIVE CHANGE ORDERS

- A. Unit-Price Adjustment: See Section 012200 "Unit Prices" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit-price work.

1.6 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Changes Proposal Request, Construction Manager will issue a Change Order for signatures of Owner and Contractor on form included in Project Manual.

1.7 CONSTRUCTION CHANGE DIRECTIVE

- A. Work Change Directive: Owner may issue a Work Change Directive on form included in Project Manual. Work Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 1. Work Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Work Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
 - 1. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 2. Section 013200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with continuation sheets.
 - b. Submittal schedule.
 - c. Items required to be indicated as separate activities in Contractor's construction schedule.
 - 2. Submit the schedule of values to Owner through Construction Manager at earliest possible date, but no later than ten days before the date scheduled for submittal of initial Applications for Payment.
 - 3. Subschedules for Phased Work: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values coordinated with each phase of payment.

4. Subschedules for Separate Elements of Work: Where the Contractor's construction schedule defines separate elements of the Work, provide subschedules showing values coordinated with each element.
 5. Subschedules for Separate Design Contracts: Where the Owner has retained design professionals under separate contracts who will each provide certification of payment requests, provide subschedules showing values coordinated with the scope of each design services contract as described in Section 011000 "Summary."
- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
1. Identification: Include the following Project identification on the schedule of values:
 - a. Project name and location.
 - b. Name of Architect.
 - c. Architect's project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 2. Arrange schedule of values consistent with format of form in Appendix.
 3. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of the Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
 - 1) Labor.
 - 2) Materials.
 - 3) Equipment.
 4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
 - a. Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.
 5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
 6. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

- a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.
7. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
8. Purchase Contracts: Provide a separate line item in the schedule of values for each purchase contract. Show line-item value of purchase contract. Indicate owner payments or deposits, if any, and balance to be paid by Contractor.
9. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.
10. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Engineer and paid for by Owner.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Times: Submit Application for Payment to Owner by the 28th of the month. The period covered by each Application for Payment is one month, ending on the 28th day of each month.
 1. Submit draft copy of Application for Payment seven days prior to due date for review by Owner.
- D. Application for Payment Forms: Use attached form for Applications for Payment.
- E. Application for Payment Forms: Use forms provided by Owner for Applications for Payment. Sample copies are included in Project Manual.
- F. Application for Payment Forms: Use forms acceptable to Construction Manager and Owner for Applications for Payment. Submit forms for approval with initial submittal of schedule of values.
- G. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Construction Manager will return incomplete applications without action.

1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
 4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
- H. **Stored Materials:** Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Only on-site stored materials shall be presented in billing.
1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
 2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
 3. Provide summary documentation for stored materials indicating the following:
 - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
 - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
 - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- I. **Transmittal:** Submit three signed and notarized original copies of each Application for Payment to Construction Manager by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- J. **Waivers of Mechanic's Lien:** With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit conditional final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. **Waiver Forms:** Submit executed waivers of lien on forms acceptable to Owner.
- K. **Waivers of Mechanic's Lien:** With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit conditional final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 5. Waiver Forms: Submit executed waivers of lien on forms, acceptable to Owner.
- L. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of values.
 3. Contractor's construction schedule (preliminary if not final).
 4. Combined Contractor's construction schedule (preliminary if not final) incorporating Work of multiple contracts, with indication of acceptance of schedule by each Contractor.
 5. Products list (preliminary if not final).
 6. Schedule of unit prices.
 7. Submittal schedule (preliminary if not final).
 8. List of Contractor's staff assignments.
 9. List of Contractor's principal consultants.
 10. Initial progress report.
 11. Report of preconstruction conference.
 12. Certificates of insurance and insurance policies.
 13. Performance and payment bonds.
 14. Data needed to acquire Owner's insurance.
- M. Application for Payment at Substantial Completion: After Owner issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- N. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. Contractor's Affidavit of Payment of Debts and Claims.
 5. Contractor's Affidavit of Release of Liens.
 6. Consent of Surety to Final Payment.
 7. Evidence that claims have been settled.

8. Final liquidated damages settlement statement.

END OF SECTION 012900

TECHNICAL PROVISIONS

2021
SANITARY SEWER REHABILITATION
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SECTION 1.00 - SCOPE

1.01 GENERAL

It is the intent of these specification requirements to provide the requirements for sanitary sewer rehabilitation work in the Town of Poolesville, Maryland.

1.02 WORK INCLUDED

The contractor shall, unless specified otherwise, furnish all materials, equipment, tools and labor necessary to do the work required under his/her contract consisting of the trenchless pipe lining, spot repair, cleaning and joint testing and sealing of existing sanitary sewer mains. The sewer main spot repair work shall be performing utilizing plant fabricated pipe and other appurtenant materials installed for the conveyance of sewage. The trenchless pipe lining, testing and sealing, and cleaning work shall be performed using the specified procedures and also includes the rehabilitation of sanitary sewer manholes and other related items.

1.03 LOCATION OF WORK

The location of this work is as shown on the plans.

1.04 COORDINATION OF WORK

The contractor shall be responsible for the satisfactory coordination of the sanitary sewer rehabilitation with other construction and activities in the area affected. Delays in work resulting from lack of such harmony shall not in any way be a cause for extra compensation by any of the parties.

1.05 WORKING HOURS

Refer to Section 7.02 of the General Conditions.

SECTION 3.00 - SEWER FLOW CONTROL

3.01 SEWER FLOW CONTROL

When a sewer line depth of flow at the upstream manhole of the manhole section being worked is above the maximum allowable for television inspection, joint testing and/or sealing, the flow shall be reduced to the level shown below by operation of pump stations, plugging or blocking of flow, or by pumping and bypassing of the flow.

Maximum Depth of Flow	Television Inspection
6"-10" Pipe	20% of pipe diameter
12"-24" Pipe	25% of pipe diameter
Maximum Depth of Flow	Joint Testing/Sealing
6"-12" Pipe	25% of pipe diameter
12"-24" Pipe	30% of pipe diameter

A. Plugging

A sewer line plug may be installed upstream of the section being worked. The plug is always to be installed in the upstream (incoming) pipe of the manhole. The plug shall be so designed that all or any portion of the sewage can be released.

B. Pumping and Bypassing

When pumping and bypassing is required, the Contractor shall supply and operate the pumps, conduits, and other equipment to divert the flow of sewage around the manhole section in which work is to be performed. Under no circumstances will the dumping of raw sewage onto the ground and streets or into the storm sewer be allowed.

C. Precautions

When the flow in a sewer line is reduced, plugged, or bypassed, precautions must be taken to ensure that damage due to flooding does not result from these operations. The Contractor shall monitor sewer surcharging upstream of the manhole section being worked in to protect the sewer lines from unnecessary damage. Any damage shall be the responsibility of the Contractor.

4. The flow rate of the test liquid shall then be regulated to a rate at which the VOID pressure is observed to be the required test pressure. A reading of test liquid flow meter shall then be taken. If the flow rate exceeds 1/4 gallon per minute (due to joint leakage), the joint will have failed the test and shall be sealed.

E. Air Test Procedure

1. The testing device shall be positioned within the line in such a manner as to straddle the pipe joint to be tested.
2. The testing device ends (end elements, sleeves) shall be expanded so as to isolate the joint from remainder of the line and create a VOID area between the testing device and the pipe joint. The ends of the testing device shall be expanded against the pipe with sufficient pressure to contain a minimum of 10 psi within the VOID area without leakage past the expanded ends.
3. Air shall then be introduced into the VOID area until a pressure equal to or greater than the required test pressure is observed with the VOID area pressure monitoring equipment. If the required test pressure cannot be developed (due to joint leakage), the joint will have failed the test and shall be sealed.
4. After the VOID pressure is observed to be equal to or greater than the required test pressure, the airflow shall be stopped. If the VOID pressure decays by more than 2 psi within 15 seconds (due to joint leakage), the joint will have failed the test and shall be sealed.

F. Control Test. Prior to starting, the pipe joint testing phase of the work, a two-part control test, shall be performed as follows:

1. To ensure the accuracy, integrity, and performance capabilities of the testing equipment, a demonstration test is to be performed in a test cylinder constructed in such a manner that a minimum of two known leak sizes can be simulated.

This technique is to establish the test equipment performance capability in relationship to the test criteria and ensure that there is no leakage of the test medium from the system or other equipment defects that could affect the joint testing results. If this test cannot be performed successfully, the Contractor shall be instructed to repair or otherwise modify his/her equipment and re-perform the test until the results are satisfactory to the Engineer.

2. After entering each manhole section with the test equipment, but prior to the commencement of joint testing, the test equipment shall be positioned on a section of sound sewer pipe between pipe joints, and a test performed as specified. This procedure is to demonstrate the reality of the test requirement, as no joint does test in excess of the pipe barrel capability. Should it be found that the barrel of the sewer pipe does not meet the joint test requirements, the test requirements will be modified by the Engineer.

his/her equipment or residual grout material or make the necessary equipment repairs/adjustments to produce accurate VOID pressure readings. Joints that fail to meet the specified test criteria shall be resealed and retested until the test criteria can be met in order to receive payment.

D. Residual Sealing Material.

Residual sealing materials that extend into the pipe, reduce the pipe diameter, or restrict the flow shall be removed from the joint. The sealed joints shall be left reasonably "flush" with the existing pipe surface. If excessive residual sealing materials accumulate in the line, the manhole section shall be cleaned to remove the residual materials. Payment for any cleaning operations performed to remove residual materials shall be incidental to the contract unit price for joint sealing.

E. Records.

Complete records, including pre- and post- joint sealing televising video, shall be kept of joint testing and sealing performed in each manhole section. The records shall identify the manhole section which the testing and sealing was done, the location of each joint tested and sealed, the test pressure used, the joint sealing verification results (pass or fail), and the quantity of chemical sealing material used at each faulty joint. The Contractor shall supply a copy of these records to the Engineer upon conclusion of the sealing work.

F. Guaranty.

All sewer pipe joint sealing work performed shall be guaranteed against faulty workmanship and/or materials for a period of two years after the completion of work.

Prior to the expiration of the guaranty period, an initial inspection area consisting of specific manhole sections will be selected by the Engineer. Manhole sections to be inspected will be randomly selected throughout the project area and will be representative of the majority of the sealing work originally performed. The initial inspection area will consist of at least 10%, but not exceed 20% of the joints sealed in the original project.

Within the initial inspection area, the Contractor shall TV-inspect all previously sealed joints. All joints that are visibly leaking shall be resealed. If the number of leaking joints is less than 5% of the joints inspected, the work shall be considered satisfactory and no further inspection shall be required. Payment for the TV inspection shall be incidental to the joint test and joint seal bid items. No compensation will be provided for resealing joints that are leaking. If, in the initial inspection area, the number of leaking joints exceeds 5% of the joints inspected, an additional area of equivalent size will be selected and all previously sealed joints shall be inspected. This additional inspection and sealing, if necessary, shall continue until the number of leaking joints is less than 5%. Any additional inspection/sealing required beyond the initial inspection area shall be accomplished with no compensation to the Contractor.

G. Payment.

SECTION 5.00 - MANHOLE IMPROVEMENTS

5.01 SEWER MANHOLE SEALING

The intent of manhole sealing is to provide for the elimination of extraneous water leakage into the manholes that are structurally sound. The Contractor shall seal the manholes specified on the plans.

A. Equipment.

The basic equipment shall consist of chemical pumps, chemical containers, injection packers, hoses, valves, and all necessary equipment and tools required to seal manholes.

B. Manhole Sealing Procedures.

At each point of leakage within the manhole structure, the sealing procedure shall be performed using current best practices following product manufacturer's specifications.

C. Payment.

Payment for all labor set-ups and materials for sealing manholes will be paid under the pay item Grout Manhole at the unit price bid each. Grout will be paid at the unit price bid per gallon.

D. Final Acceptance.

After the manhole sealing operation has been completed, the manhole will be visually inspected for the elimination of excessive infiltration by the Engineer in the presence of the Contractor, and the work must be found satisfactory to the Engineer.

5.02 REBUILD MANHOLE INVERT

The intent of the rebuild manhole invert work is the complete removal, disposal, and reconstruction of existing manhole inverts. The Contractor shall rebuild the inverts for the manholes specified on the plans.

A. Procedure.

1. The Contractor shall bypass sewage around the manholes which are to have rebuilt inverts. All labor and materials necessary to perform the bypass shall be the responsibility of the Contractor, and payment shall be incidental to the rebuild manhole invert contract unit price.
2. The bottom of the sewer manhole shall be cleaned of all foreign material and matter prior to beginning the rebuilding work. Cleaning may be accomplished by waterblasting, sandblasting, or applying an acid solution. If an acid solution is used, it shall be washed off

6.00 CHEMICAL SEALING MATERIALS

6.01 CHEMICAL SEALING MATERIALS

The intent of this section is to define the properties and characteristics that a sealing material must have to perform effectively in the intended application and under expected field conditions. This material specification applies to both manhole sealing and sewer main joint sealing. Intended sealing products to be used shall be submitted to the engineer, for approval, a minimum of two weeks prior to the start of any work.

- A.** While being injected, the chemical sealant must be able to react/perform in the presence of water.
- B.** The cured material must be capable of withstanding submergence in water without degradation.
- C.** The resultant sealant formation must prevent the passage of water.
- D.** The sealant material, after curing, must be flexible as opposed to brittle or rigid.
- E.** In place, the resultant sealant formation should be able to withstand freeze/thaw and wet/dry cycles without adversely affecting the seal.
- F.** The sealant formation must not be biodegradable. Additives may be used to meet this requirement.
- G.** The cured sealant should be chemically stable and resistant to concentrations of acids, alkalis, and organics found in normal sewage.
- H.** Packaging of component materials must be compatible with field storage and handling requirements. Package must provide for worker safety and minimize spillage during handling.
- I.** Mixing of component materials must be compatible with field operations and not require precise measurements.
- J.** Cleanup must be done without inordinate use of flammable or hazardous chemicals.
- K.** Residual sealing materials must be removable from the sewer after injection to ensure no flow reduction, restriction, or blockage of normal sewage flows.

The wall color of the interior pipe surface of the pipe after installation shall be a light-reflective color so that a clear detail examination with closed-circuit television inspection equipment may be made.

The Contractor shall be responsible for all aspects of the design of the rehabilitation pipe. The Contractor shall guarantee that the installed pipe is capable of sustaining outside loads, resisting chemical attack that normally occurs in sanitary sewer, and will maintain hydraulic characteristics over a fifty-year design life. No design shall rely on bonding to the existing pipe or rely on the remaining strength of the existing pipe. The minimum acceptable design criteria shall be as follows:

The pipe liner shall be designed to fit the existing sanitary sewer. The pipe liner shall be fabricated to a size that, when installed, will tightly fit the internal circumference and length of the original pipe.

The existing sewer shall be considered to be in a fully deteriorated gravity condition and that the original pipe is not structurally sound and cannot support soil and live loads. The cured-in-place or fold-and-form pipe shall be designed to support hydraulic, soil, and live loads.

A copy of the calculations used for the design of the pipe liner shall be submitted to the Engineer prior to fabricating of the pipe liner. Standard formulas as used in the design of flexible pipes shall be used for the design calculations. Height of water over the pipe shall be considered as 10 feet and a Factor of Safety of 2.0 shall be used in all calculations.

Overall condition of the pipeline system shall be maintained with its hydraulic profile as large as possible. Offsets of two adjacent pipe sections more than 25 percent of the diameter of the pipe shall be repaired by grinding and/or straightening the offset to be a useable shape in a manner mutually acceptable between the Contractor and the Engineer.

The Contractor shall certify that the completed pipe liner shall have a minimum of the full flow capacity of the original pipe before rehabilitation. Calculated capacities may be derived using a commonly accepted roughness coefficient for the existing pipe material, taking into consideration its age and condition.

The Contractor shall submit the details of the proposed processing, including the steps, the pressure (specified steam air or water), the duration and the temperatures. When processing at temperatures near the melting temperature, the Contractor shall demonstrate how the pipe liner is to be contained or protected from blowouts. Any damage, either to the pipe or property of others shall be repaired at the Contractor's expense, to the satisfaction of the parties involved.

7.02 MATERIALS

A. Cured-in-Place Pipe (Insituform)

U.S. Standard		Results
Flexural Stress (Yield)	ASTM D-638	3,300 psi
Flexural Stress (Break)	ASTM D-638	4,500 psi
Modulus of Elasticity **	ASTM D-790	136,000 psi

**Modulus of Elasticity shall not exceed 200,000 psi

5. Tests for compliance with this specification shall be made according to the applicable ASTM specification. A certificate of compliance with this specification shall be provided to the Engineer prior to manufacturing the pipe-liner.

7.03 INSTALLATION

A. Incidental Items.

1. Safety - The installer shall carry out their operation in strict accordance with all OSHA and manufacturers' safety requirements. Particular attention is drawn to those safety requirements involving entering confined spaces.

2. Traffic Control - Traffic control shall be the responsibility of the Contractor and shall conform to MUTCD and other portions of these specifications and the contract Special Provisions. The Contractor shall maintain traffic during work periods. During non-working periods, the Contractor shall open the entire roadway to traffic.

3. Access - It will be the responsibility of the Engineer to locate and designate all manhole access points open and accessible from the work and provide rights of access to these points. If a street must be closed to traffic because of the orientation of the sewer, the Contractor shall institute the actions necessary to do this for the mutually agreed time period.

4. Water Usage - Water is available from designated Town fill stations for cleaning, inversion, and other work requiring water. However, the Contractor shall secure permission from the Water Department and obtain the necessary permits and pay the fees associated with the permit and water usage.

5. Cleaning of Sewer Lines - The Contractor shall remove all internal debris out of the sewer line that will interfere with the installation of the pipeliner using cleaning procedures outlined elsewhere in these specifications.

6. Bypassing Sewage - The Contractor shall provide the flow of sewage around the section or sections of pipe designated for repair. The bypass shall be made by plugging the line at an existing upstream manhole and pumping the flow into a downstream manhole or adjacent system. The pump and bypass lines shall be adequate capacity and size to handle the flow. The Engineer shall be furnished a detail of the bypass plan.

Upon the Engineer's final manhole-to-manhole inspection of the sewer system, if any foreign matter is still present in the system, reflush and clean the sections and portions of the lines as required.

12. Final Televising of Sanitary Sewer – After all testing and cleaning is completed; the Contractor shall provide the Engineer with a DVD in PACP format with GIS assets and a report showing the entire length of completed sewer lining work. The televising shall meet the criteria specified elsewhere in these specifications.

13. Sealing Liner at Manholes - If the liner fails to form a tight seal due to broken or misaligned pipe at the manhole wall, the installer shall apply a seal at that point.

The seal shall be approved by the Owner. Payment for the installation of the seal shall be incidental to the installation of the pipeliner.

B. Installation of Cured-in-Place Pipe, CIPP (Insituform)

1. The CIPP installation shall be in accordance with ASTM F1216, Section 7, with the following additional requirements.

Resin Impregnation - The quantity of resin used for tube impregnation shall be sufficient to fill the volume of air VOIDS in the tube with additional allowances for polymerization shrinkage and the loss of resin through cracks and irregularities in the original pipe wall. A vacuum impregnation process shall be used to uniformly distribute the resin throughout the tube. A roller system shall be used to uniformly distribute the resin throughout the tube.

The resin shall be cured by circulating hot water within the tube or other method approved by the Engineer. When cured, the finished Insitupipe will be continuous and tight fitting.

Temperature gauges shall be placed to determine the temperature of the incoming and outgoing water from heat source. Another such gauge shall be placed inside the tube at the remote end to determine the temperature at that location during the cure cycle.

2. Testing of the completed CIPP shall include the following:

- a) Insitupipe samples shall be prepared in accordance with the ASTM F1216, Section 8.1, using either method proposed.
- b) Leakage testing of the Insitupipe shall be accomplished during cure while under a positive head. Products in which the pipe wall is cured while not in direct contact

capacity and winching power available and consideration of the size and condition of the sewer.

2. Processing - A mobile installation unit shall be brought to the site ready to process the liner. The installation unit shall contain the instrumentation control console, steam generating equipment, CCTV facility, and other auxiliary miscellaneous equipment necessary for controlling processing of the U-Liner pipe.

The equipment shall be positioned next to the point of entry with minimum obstruction to the other site activities and shall be operated by trained personnel only.

3. Cooling Process - The pressure shall be increased to compensate for the heating-cooling transition and it shall be maintained until the temperature at the lowest critical point is 100° F (38° C). This shall constitute completion of the U-Liner pipe processing. The pipe within the pipe shall be tight fitting and adapted to the existing sewer pipe.

4. Testing - The Contractor will, on requirement, furnish all equipment and personnel to conduct an acceptance test using low pressure air. The test will be conducted under the supervision of the Engineer.

7.04 MEASUREMENT AND PAYMENT

A. Measurement of sewer lining pipe shall be by the linear foot measured to the nearest foot between centers of manholes.

B. Payment for sewer lining pipe by the linear foot for each specified diameter of existing sewer pipe shall include full compensation for all labor, equipment, and materials necessary to complete the work as specified and no additional compensation will be made therefore. All traffic control required for the trenchless pipe relining work shall be incidental, with no separate compensation given.

Payment for any repair work to remove line obstructions for the installation of the pipeliner shall be incidental to the sewer lining work with no separate compensation given. This repair work may include the removal and replacement of asphalt pavement, concrete curb and gutter and sodding in addition to the performance of the work to repair the existing sanitary sewer. Any asphalt pavement disturbed by sewer repair work shall be replaced with the Town standard pavement section for residential roadways.

Pre-lining and post-lining televising inspections shall be incidental to the sewer lining work with no separate compensation given.

These considerations normally include an evaluation of 1) Flow capacity, 2) External loads (hydrostatic pressure and/or static and dynamic earth loads), and 3) internal pressure, if applicable.

8.02 MATERIALS

The Modulus of Elasticity is one of the indications of the property of the material. It is in the interest of the Owner to provide a flexible restoration material for the damaged pipe since the condition or the environment in which the pipe is a part obviously is active. The Short-Liner pipe is made of thermosetting material which is designed with the modulus of elasticity range capable of providing the required flexibility without detriment to the structural integrity of the pipe.

The Short-Liner pipe shall conform to the minimum structural standards, as listed below:

	U.S. Standard	Results
Flexural Strength	ASTM D-790	4,500
Modulus of Elasticity	ASTM D-790	250,000

8.03 INSTALLATION

A. Installation Procedure.

The following installation procedure shall be adhered to unless otherwise approved by the Owner's representative.

1. Safety - The Installer shall carry out his/her operations in strict accordance with all OSHA and manufacturers' safety requirements. Particular attention is drawn to those safety requirements involving entering confined spaces.
2. Cleaning of Sewer Line - It shall be the responsibility of the Installer to remove all internal debris from the sewer line (designate cleaning method here to refer to standard sewer cleaning specifications if contained elsewhere in this document).
3. Inspection of Sewer Line - Inspection of pipelines shall be performed by experienced personnel trained in identifying breaks, obstacles and service connections by closed circuit television. The interior of the pipeline shall be carefully inspected to determine the location of any conditions which may prevent proper installation of the Short-Liner pipe into the sewer line, and it shall be noted so that these conditions can be corrected. A DVD in PACP format and suitable log shall be kept for later reference by the Owner.
4. Bypassing Sewage - The Installer, when required, shall provide for the flow of sewage around the section or sections of pipe designated for lining. The bypass shall be made by plugging the line at an existing manhole and pumping the flow into a downstream manhole or adjacent system. The pump and bypass lines shall be of an adequate capacity and size to handle the flow.

12. Backfill - At all points where the liner pipe has been exposed (such as service connection fittings, or other points where the old pipe must be removed), the liner pipe and fittings shall be encased in cement-stabilized sand or other high density material as specified by the Owner to prevent deflection due to difference in subsidence.

After the encasement material is in place and accepted by the Owner's representative, backfill is placed and compacted to require finish grade in accordance with the Owner's specifications. Particular care should be taken to ensure compaction of earth beneath the lateral pipe in order to reduce subsidence and resultant bending at the lateral connection at the sewer main.

13. Cleanup - After the installation work has been completed and all testing acceptable, the Contractor shall clean up the entire project area and return the ground cover to grade. All excess material and debris not incorporated into the permanent installation shall be disposed of by the contractor. Sidewalk, driveway and street surfaces shall be recovered under the appropriate pay item.

8.04 MEASUREMENT AND PAYMENT

A. Measurement of Short-Liner pipe shall be by the linear foot.

B. Payment for Short-Liner pipe by the linear foot for each specified diameter of existing sewer pipe shall include full compensation for all labor, equipment, and materials necessary to complete the work as specified and no additional compensation will be made therefore.

All traffic control required for the trenchless pipe work shall be incidental, with no separate compensation given.

Payment for any repair work to remove line obstructions for the installation of the liner shall be incidental to the liner work with no separate compensation given.

Pre-lining and post-lining televising inspections shall be incidental to the sewer lining work with no separate compensation given.

A small quantity of water is to be introduced into the line prior to televising. The amount shall be determined by the Engineer and coordinated with the Town's Water and Sewer Department. The amount of water shall be sufficient enough to distinguish any sags or alignment problems with the pipe.

A fan/vacuum shall be utilized if steam given off by the sanitary sewer affects the camera visibility.

Examine starting and ending doghouses for quality of mortar work.

While at the bottom of the manhole, the camera will examine all joints as high as it can see around the entire manhole circumference. Joints shall be examined for infiltration and excessive gaps.

All outside drops shall be noted and visually examined looking down from the top.

Provide starting and ending manhole depths to the nearest 0.5'.

Include the location relative to the zero starting point, the side (left of right), and the clockwise position of the wye (i.e. 10:00). Note any problems associated with the service wye.

In the event the section being televised has substantial flow entering the sewer between manholes, such that 20% or 25% of the pipe diameter is flowing for 6"-10" pipe and 12"-24" pipe, respectively, the Contractor will coordinate with the Engineer to have such flow temporarily stopped and/or reschedule television inspection of the particular section to a time when such flow is reduced to permit proceeding with the television inspection. Any required by-passing or "pigging" is considered incidental.

When sewer line depth of flow at the upstream manhole of the section being televised is above the maximum allowable for television inspection, the Contractor will reduce the flow to permit proceeding with the television inspection.

Accuracy of the measurement meters will be checked daily. Footage measurements will begin at the sewer line point of penetration of the upstream manhole, unless specific permission is given to do otherwise. Footage will be shown on the data view/monitor at all times.

9.03 DOCUMENTATION OF THE TELEVISION RESULTS

Television inspection logs will be typed in format acceptable to the Town. Samples of the video and inspection log and PACP certification shall be submitted prior to bid acceptance, unacceptable submittals shall be rejected. Two written reports are required along with a brief summary report of noted items in each segment recorded on the project at the front of the report log. Printed location reports will clearly show the location, in relation to adjacent manholes, of each source of infiltration discovered. In addition, other data of significance, including the location of buildings and house service connections, joints, unusual conditions, roots, storm sewer connections, collapsed sections, presence of scale and corrosion, and other discernible

9.04 MEASUREMENT AND PAYMENT

- A.** Measurement of sewer televising will be by the linear foot completed, measured to the nearest foot between centers of manholes.
- B.** Payment for sewer televising by the linear foot will include full compensation for all labor, equipment, and materials necessary to complete the work as specified and no additional compensation will be made therefore.

BID FORM AND ENCLOSURES

2021
SANITARY SEWER REHABILITATION
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SECTION 1.00 - SCOPE

1.01 GENERAL

It is the intent of these specification requirements to provide the requirements for sanitary sewer rehabilitation work in the Town of Poolesville, Maryland.

1.02 WORK INCLUDED

The contractor shall, unless specified otherwise, furnish all materials, equipment, tools and labor necessary to do the work required under his/her contract consisting of the trenchless pipe lining, spot repair, cleaning and joint testing and sealing of existing sanitary sewer mains. The sewer main spot repair work shall be performing utilizing plant fabricated pipe and other appurtenant materials installed for the conveyance of sewage. The trenchless pipe lining, testing and sealing, and cleaning work shall be performed using the specified procedures and also includes the rehabilitation of sanitary sewer manholes and other related items.

1.03 LOCATION OF WORK

The location of this work is as shown on the plans.

1.04 COORDINATION OF WORK

The contractor shall be responsible for the satisfactory coordination of the sanitary sewer rehabilitation with other construction and activities in the area affected. Delays in work resulting from lack of such harmony shall not in any way be a cause for extra compensation by any of the parties.

1.05 WORKING HOURS

Refer to Section 7.02 of the General Conditions.

SECTION 2.00 - SEWER LINE CLEANING

2.01 SEWER LINE CLEANING

Since the success of the other phases of rehabilitation depends a great deal on the cleanliness of the sewer lines, the importance of this phase of the operation is emphasized.

A. Cleaning Equipment

All sections of sewer main or service line to be air tested at joints and sealed shall be cleaned using a hydraulically propelled high-velocity jet cleaner. Selection of equipment shall be based on field conditions such as access to manholes, type and quantity of debris to be removed, physical condition of line, size of sewer, and depth of flow.

After cleaning, sanitary sewer and manholes shall be free of sludge, mud, sand, gravel, rock, grass, roots, or any other objects which may prevent the Contractor from properly testing and sealing joints. All material removed during the cleaning operations shall become the property of the Contractor. It shall be the Contractor's responsibility to properly dispose of this material.

In this section of sewer main or service line which requires cleaning, testing, and sealing or spot repair work, payment for cleaning will be made for the LF of sewer main or service line actually worked on, including the portion(s) to be spot repaired.

B. Root Removal

Special attention should be used during the cleaning operation to assure the removal of all roots from the joints. Any roots which could prevent the seating of the packer or could prevent the proper application of chemical sealants shall be removed. Payment for root removal shall be incidental to the contract unit price per lineal foot for sewer main or service line cleaning.

C. Protruding Tap Removal

The Contractor shall remove any protruding taps located in the sewer main prior to testing and sealing operations. Removal shall be accomplished by remote controlled saws or other methods as approved by the Engineer. Payment for removal of protruding taps shall be paid per item as shown on the bid tab, if no item is shown then it shall be considered as incidental to the contract unit price per lineal foot for sewer main cleaning.

SECTION 3.00 - SEWER FLOW CONTROL

3.01 SEWER FLOW CONTROL

When a sewer line depth of flow at the upstream manhole of the manhole section being worked is above the maximum allowable for television inspection, joint testing and/or sealing, the flow shall be reduced to the level shown below by operation of pump stations, plugging or blocking of flow, or by pumping and bypassing of the flow.

Maximum Depth of Flow	Television Inspection
6"-10" Pipe	20% of pipe diameter
12"-24" Pipe	25% of pipe diameter
Maximum Depth of Flow	Joint Testing/Sealing
6"-12" Pipe	25% of pipe diameter
12"-24" Pipe	30% of pipe diameter

A. Plugging

A sewer line plug may be installed upstream of the section being worked. The plug is always to be installed in the upstream (incoming) pipe of the manhole. The plug shall be so designed that all or any portion of the sewage can be released.

B. Pumping and Bypassing

When pumping and bypassing is required, the Contractor shall supply and operate the pumps, conduits, and other equipment to divert the flow of sewage around the manhole section in which work is to be performed. Under no circumstances will the dumping of raw sewage onto the ground and streets or into the storm sewer be allowed.

C. Precautions

When the flow in a sewer line is reduced, plugged, or bypassed, precautions must be taken to ensure that damage due to flooding does not result from these operations. The Contractor shall monitor sewer surcharging upstream of the manhole section being worked in to protect the sewer lines from unnecessary damage. Any damage shall be the responsibility of the Contractor.

SECTION 4.00 SEWER PIPE JOINT TEST AND SEAL

4.01 SEWER PIPE JOINT TESTING

The intent of sewer pipe joint testing is to test the integrity of individual pipe joints.

A. Test Medium

Both liquid (usually water) and air are acceptable, but the test procedure is different for each.

B. Equipment.

The basic equipment used shall consist of a television camera, joint testing device, and test monitoring equipment. The equipment shall be constructed in such a way as to provide means for introducing the test medium, under pressure, into the VOID area created by the expanded ends of the joint testing device. A means for continuously measuring the actual static pressure of the test medium and within the VOID area only shall also be provided. The pressure-metering device shall display pressure to within 1/2 of one psi.

VOID pressure data shall be transmitted electrically from the VOID to the monitoring equipment. Example: Via a TV picture of a pressure gauge located at the VOID, or via an electrical pressure transducer located at the VOID.

C. Test Pressure.

Joint test pressure must be higher than the groundwater pressure outside the pipe. A test pressure 2-4 psi higher than the groundwater pressure is recommended. In the absence of groundwater pressure data, the test pressure should be at least equal to 1/2 psi per vertical foot of pipe depth (not exceeding 10 psi).

D. Liquid Test Procedure

1. The testing device shall be positioned within the line in such a manner as to straddle the pipe joint to be tested.
2. The testing device ends (end elements, sleeves) shall be expanded so as to isolate the joint from the remainder of the line and create a VOID area between the testing device and the pipe joint. The ends of the testing device shall be expanded against the pipe with sufficient pressure to contain a minimum of 10 psi within the VOID area without leakage past the expanded ends.
3. Water or an equivalent liquid shall then be introduced into the VOID area until a pressure equal to or greater than the required test pressure is observed with the VOID pressure monitoring equipment. If the required test pressure cannot be developed (due to joint leakage), the joint will have failed the test and shall be sealed.

4. The flow rate of the test liquid shall then be regulated to a rate at which the VOID pressure is observed to be the required test pressure. A reading of test liquid flow meter shall then be taken. If the flow rate exceeds 1/4 gallon per minute (due to joint leakage), the joint will have failed the test and shall be sealed.

E. Air Test Procedure

1. The testing device shall be positioned within the line in such a manner as to straddle the pipe joint to be tested.
2. The testing device ends (end elements, sleeves) shall be expanded so as to isolate the joint from remainder of the line and create a VOID area between the testing device and the pipe joint. The ends of the testing device shall be expanded against the pipe with sufficient pressure to contain a minimum of 10 psi within the VOID area without leakage past the expanded ends.
3. Air shall then be introduced into the VOID area until a pressure equal to or greater than the required test pressure is observed with the VOID area pressure monitoring equipment. If the required test pressure cannot be developed (due to joint leakage), the joint will have failed the test and shall be sealed.
4. After the VOID pressure is observed to be equal to or greater than the required test pressure, the airflow shall be stopped. If the VOID pressure decays by more than 2 psi within 15 seconds (due to joint leakage), the joint will have failed the test and shall be sealed.

F. Control Test. Prior to starting, the pipe joint testing phase of the work, a two-part control test, shall be performed as follows:

1. To ensure the accuracy, integrity, and performance capabilities of the testing equipment, a demonstration test is to be performed in a test cylinder constructed in such a manner that a minimum of two known leak sizes can be simulated.

This technique is to establish the test equipment performance capability in relationship to the test criteria and ensure that there is no leakage of the test medium from the system or other equipment defects that could affect the joint testing results. If this test cannot be performed successfully, the Contractor shall be instructed to repair or otherwise modify his/her equipment and re-perform the test until the results are satisfactory to the Engineer.

2. After entering each manhole section with the test equipment, but prior to the commencement of joint testing, the test equipment shall be positioned on a section of sound sewer pipe between pipe joints, and a test performed as specified. This procedure is to demonstrate the reality of the test requirement, as no joint does test in excess of the pipe barrel capability. Should it be found that the barrel of the sewer pipe does not meet the joint test requirements, the test requirements will be modified by the Engineer.

3. Set Up: All work required to set up joint testing and sealing equipment in the required manholes shall be incidental to the joint testing and sealing work with no separate compensation given.

4.02 SEWER PIPE JOINT SEALING

It is the intent of the sewer pipe joint sealing work to seal sewer pipe joints which have leakage rates of 1/4 gallon per minute or more, utilizing the internal joint sealing method. It is realized that this method may only be used on sewer pipe sections that are clean and in sound physical condition.

A. Equipment.

The basic equipment shall consist of a closed-circuit television system, necessary chemical sealant containers, pumps, regulators, valves, hoses, etc., and joint sealing packers for the various sizes of sewer pipes. The packer shall be cylindrical and have a diameter less than the pipe size and have cables attached at each end to pull it through the line.

The packer device shall be constructed in a manner to allow a restricted amount of sewage to flow. Generally, the equipment shall be capable of performing the specified operations in lines where flows do not exceed the maximum line flows for joint testing/sealing.

B. Joint Sealing Procedure.

1. Cleaning of Sewer Line: Prior to any joint testing or sealing within a manhole section designated to be joint sealed, it shall be the responsibility of the Contractor to clean the sewer line as specified.
2. Testing and Sealing: When a manhole section is designated to be joint sealed on the plans, all the joints within that section shall be tested and then sealed if and/as required.

Joint sealing shall be accomplished by forcing chemical sealing materials into or through faulty joints by a system of pumps, hoses, and a sealing packer. The packer shall be positioned over the faulty joint by means of a measuring device and the television camera in the line. The packer ends (end elements, sleeves) shall be expanded using controlled pressure. The expanded ends shall seal against the inside periphery of the pipe to form a VOID area at the faulty joint, now completely isolated from the remainder of the pipeline. Into this isolated area, sealant materials shall be pumped through the hose system at controlled pressures which are in excess of groundwater pressures.

C. Joint Sealing Verification.

Upon completing the sealing of each individual joint, the packer shall be deflated until the VOID pressure meter reads zero pressure, then reinflated and the joint retested as specified. Should the VOID pressure meter not read zero, the Contractor shall clean

his/her equipment or residual grout material or make the necessary equipment repairs/adjustments to produce accurate VOID pressure readings. Joints that fail to meet the specified test criteria shall be resealed and retested until the test criteria can be met in order to receive payment.

D. Residual Sealing Material.

Residual sealing materials that extend into the pipe, reduce the pipe diameter, or restrict the flow shall be removed from the joint. The sealed joints shall be left reasonably "flush" with the existing pipe surface. If excessive residual sealing materials accumulate in the line, the manhole section shall be cleaned to remove the residual materials. Payment for any cleaning operations performed to remove residual materials shall be incidental to the contract unit price for joint sealing.

E. Records.

Complete records, including pre- and post- joint sealing televising video, shall be kept of joint testing and sealing performed in each manhole section. The records shall identify the manhole section which the testing and sealing was done, the location of each joint tested and sealed, the test pressure used, the joint sealing verification results (pass or fail), and the quantity of chemical sealing material used at each faulty joint. The Contractor shall supply a copy of these records to the Engineer upon conclusion of the sealing work.

F. Guaranty.

All sewer pipe joint sealing work performed shall be guaranteed against faulty workmanship and/or materials for a period of two years after the completion of work.

Prior to the expiration of the guaranty period, an initial inspection area consisting of specific manhole sections will be selected by the Engineer. Manhole sections to be inspected will be randomly selected throughout the project area and will be representative of the majority of the sealing work originally performed. The initial inspection area will consist of at least 10%, but not exceed 20% of the joints sealed in the original project.

Within the initial inspection area, the Contractor shall TV-inspect all previously sealed joints. All joints that are visibly leaking shall be resealed. If the number of leaking joints is less than 5% of the joints inspected, the work shall be considered satisfactory and no further inspection shall be required. Payment for the TV inspection shall be incidental to the joint test and joint seal bid items. No compensation will be provided for resealing joints that are leaking. If, in the initial inspection area, the number of leaking joints exceeds 5% of the joints inspected, an additional area of equivalent size will be selected and all previously sealed joints shall be inspected. This additional inspection and sealing, if necessary, shall continue until the number of leaking joints is less than 5%. Any additional inspection/sealing required beyond the initial inspection area shall be accomplished with no compensation to the Contractor.

G. Payment.

Payment for all labor set-ups and materials for line testing and seal operations will be paid under the pay item Joint Sealing at the unit price bid each. Grout will be paid at the unit price bid per gallon.

SECTION 5.00 - MANHOLE IMPROVEMENTS

5.01 SEWER MANHOLE SEALING

The intent of manhole sealing is to provide for the elimination of extraneous water leakage into the manholes that are structurally sound. The Contractor shall seal the manholes specified on the plans.

A. Equipment.

The basic equipment shall consist of chemical pumps, chemical containers, injection packers, hoses, valves, and all necessary equipment and tools required to seal manholes.

B. Manhole Sealing Procedures.

At each point of leakage within the manhole structure, the sealing procedure shall be performed using current best practices following product manufacturer's specifications.

C. Payment.

Payment for all labor set-ups and materials for sealing manholes will be paid under the pay item Grout Manhole at the unit price bid each. Grout will be paid at the unit price bid per gallon.

D. Final Acceptance.

After the manhole sealing operation has been completed, the manhole will be visually inspected for the elimination of excessive infiltration by the Engineer in the presence of the Contractor, and the work must be found satisfactory to the Engineer.

5.02 REBUILD MANHOLE INVERT

The intent of the rebuild manhole invert work is the complete removal, disposal, and reconstruction of existing manhole inverts. The Contractor shall rebuild the inverts for the manholes specified on the plans.

A. Procedure.

1. The Contractor shall bypass sewage around the manholes which are to have rebuilt inverts. All labor and materials necessary to perform the bypass shall be the responsibility of the Contractor, and payment shall be incidental to the rebuild manhole invert contract unit price.
2. The bottom of the sewer manhole shall be cleaned of all foreign material and matter prior to beginning the rebuilding work. Cleaning may be accomplished by waterblasting, sandblasting, or applying an acid solution. If an acid solution is used, it shall be washed off

and the manhole allowed to dry. Mixing, application and removal of the acid shall be done in strict accordance with the manufacturer's recommendations.

3. The manhole invert shall be rebuilt with quick-set non-shrinking cement type grout such that the trough is compatible with all incoming and outgoing pipe and their inverts.

B. Payment.

Payment for all labor and materials to bypass sewage, clean, remove, and rebuild existing manhole inverts shall be made on an each basis under the bid item rebuild manhole invert.

C. Final Acceptance.

After the manhole invert has been rebuilt, the manhole shall be visually inspected by the Engineer in the presence of the Contractor, and all work must be found satisfactory to the Engineer.

6.00 CHEMICAL SEALING MATERIALS

6.01 CHEMICAL SEALING MATERIALS

The intent of this section is to define the properties and characteristics that a sealing material must have to perform effectively in the intended application and under expected field conditions. This material specification applies to both manhole sealing and sewer main joint sealing. Intended sealing products to be used shall be submitted to the engineer, for approval, a minimum of two weeks prior to the start of any work.

- A.** While being injected, the chemical sealant must be able to react/perform in the presence of water.
- B.** The cured material must be capable of withstanding submergence in water without degradation.
- C.** The resultant sealant formation must prevent the passage of water.
- D.** The sealant material, after curing, must be flexible as opposed to brittle or rigid.
- E.** In place, the resultant sealant formation should be able to withstand freeze/thaw and wet/dry cycles without adversely affecting the seal.
- F.** The sealant formation must not be biodegradable. Additives may be used to meet this requirement.
- G.** The cured sealant should be chemically stable and resistant to concentrations of acids, alkalis, and organics found in normal sewage.
- H.** Packaging of component materials must be compatible with field storage and handling requirements. Package must provide for worker safety and minimize spillage during handling.
- I.** Mixing of component materials must be compatible with field operations and not require precise measurements.
- J.** Cleanup must be done without inordinate use of flammable or hazardous chemicals.
- K.** Residual sealing materials must be removable from the sewer after injection to ensure no flow reduction, restriction, or blockage of normal sewage flows.

SECTION 7.00 - TRENCHLESS PIPE RELINING

7.01 GENERAL REQUIREMENTS

A. Intent.

It is the intent of this specification to provide requirements for all design, materials, transportation, equipment, and labor necessary to reconstruct deteriorated sections of the sanitary sewer listed in these contract documents by means of the cured-in-place pipe process (Insituform), the polyvinylchloride (PVC) pipe fold-and-form process (Nu-Pipe), or the high density polyethylene (HDPE) pipe fold and form process (U-Liner) or approved equal.

B. Reference Specifications.

This specification references American Society for Testing and Materials (ASTM) standard specifications, which are made a part hereof by such reference and shall be the latest edition and revision thereof.

- | | |
|--------|---|
| D-1784 | Specification for Rigid Polyvinylchloride (PVC)
Compounds and Chlorinated Polyvinylchloride (CPVC) Compounds |
| D-3034 | Specification for Type PSM Polyvinylchloride (PVC) Sewer Pipe and
Fittings |
| D-1248 | Specification for Polyethylene Plastics Molding and Extrusion Materials |
| D-1693 | Test for Environmental Stress-Cracking of Ethylene Plastics |
| D-2837 | Obtaining Hydrostatic Design Basis for Thermo-Plastic Pipe Material |
| D-3350 | Specification for Polyethylene Plastics Pipe and Fittings Materials |
| F-714 | Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on
Outside Diameter (3" IPS and larger) |
| F-1216 | Rehabilitation of Existing Pipelines and Conduits by the Inversion and
Curing of a Resin-Impregnated Tube |

C. Design Considerations.

The minimum length of the pipe liner shall be that deemed necessary by the Contractor to produce a finished pipe tightly formed to the existing pipe and which effectively spans the distance from the inlet to the outlet of the respective manholes. Individual insertion runs can be made over one or more manhole sections as determined in the field by the Contractor and approved by the Engineer.

The wall color of the interior pipe surface of the pipe after installation shall be a light-reflective color so that a clear detail examination with closed-circuit television inspection equipment may be made.

The Contractor shall be responsible for all aspects of the design of the rehabilitation pipe. The Contractor shall guarantee that the installed pipe is capable of sustaining outside loads, resisting chemical attack that normally occurs in sanitary sewer, and will maintain hydraulic characteristics over a fifty-year design life. No design shall rely on bonding to the existing pipe or rely on the remaining strength of the existing pipe. The minimum acceptable design criteria shall be as follows:

The pipe liner shall be designed to fit the existing sanitary sewer. The pipe liner shall be fabricated to a size that, when installed, will tightly fit the internal circumference and length of the original pipe.

The existing sewer shall be considered to be in a fully deteriorated gravity condition and that the original pipe is not structurally sound and cannot support soil and live loads. The cured-in-place or fold-and-form pipe shall be designed to support hydraulic, soil, and live loads.

A copy of the calculations used for the design of the pipe liner shall be submitted to the Engineer prior to fabricating of the pipe liner. Standard formulas as used in the design of flexible pipes shall be used for the design calculations. Height of water over the pipe shall be considered as 10 feet and a Factor of Safety of 2.0 shall be used in all calculations.

Overall condition of the pipeline system shall be maintained with its hydraulic profile as large as possible. Offsets of two adjacent pipe sections more than 25 percent of the diameter of the pipe shall be repaired by grinding and/or straightening the offset to be a useable shape in a manner mutually acceptable between the Contractor and the Engineer.

The Contractor shall certify that the completed pipe liner shall have a minimum of the full flow capacity of the original pipe before rehabilitation. Calculated capacities may be derived using a commonly accepted roughness coefficient for the existing pipe material, taking into consideration its age and condition.

The Contractor shall submit the details of the proposed processing, including the steps, the pressure (specified steam air or water), the duration and the temperatures. When processing at temperatures near the melting temperature, the Contractor shall demonstrate how the pipe liner is to be contained or protected from blowouts. Any damage, either to the pipe or property of others shall be repaired at the Contractor's expense, to the satisfaction of the parties involved.

7.02 MATERIALS

A. Cured-in-Place Pipe (Insituform)

1. The tube material and design considerations shall meet the requirements of ASTM F1216, Section 5.1 and modified as follows (or current ASTM standards).
2. The tubes shall have a uniform thickness that when compressed at installation pressures will equal the specified nominal tube thickness.
3. The outside layer of the tube (before inversion) shall be plastic-coated with a translucent flexible material that clearly allows inspection of the resin impregnation (wetout) procedure. The plastic coating shall not be subject to delimitation after curing.
4. The tube shall be homogeneous across the entire wall thickness containing no intermediate or encapsulated elastomeric layers. No materials shall be included in the tube that is subject to delimitation in the cured Insitu pipe.
5. The resin system shall meet the requirements of ASTM F1216.
6. A certificate of compliance with these specifications shall be provided to the Engineer prior to manufacturing the pipeliner.

B. PVC Fold-and-Form Pipe (Nu-Pipe).

1. PVC Materials: PVC fold-and-form pipe shall meet the performance requirements of ASTM D3034.

The PVC compound used for the folded pipe shall conform to ASTM D1784 classification 12334B, 12344B or 12454 B or C. Compounds that have different call classifications because one or more properties are superior to those of the specified compounds also acceptable. A Certificate of Compliance with this specification shall be provided to the Engineer prior to manufacturing the pipeliner.

C. HDPE Fold-and-Form Pipe (U-Liner).

1. U-Liner Pipe: The HDPE fold-and-form pipe shall be manufactured from high density polyethylene pipe compound which conforms to ASTM D-1248 and meets the requirements for Type PE 34, Class C Product. The installed pipe properties shall also meet these ASTM testing standards.
2. Pipe made from this must have a long-term hydrostatic strength rating of 1600 psi or more, in accordance with ASTM D-2837.
3. When the environmental stress crack resistance (ESCR) of the compound is measured in accordance with ASTM D-1693, Condition C, the compound shall withstand not less than 192 hours in 100% solution Igepal CO-630 at 100° F before reaching a 20% failure point (F20).
4. The U-Liner Pipe shall conform to the minimum structural standards, as listed below:

U.S. Standard		Results
Flexural Stress (Yield)	ASTM D-638	3,300 psi
Flexural Stress (Break)	ASTM D-638	4,500 psi
Modulus of Elasticity **	ASTM D-790	136,000 psi

**Modulus of Elasticity shall not exceed 200,000 psi

5. Tests for compliance with this specification shall be made according to the applicable ASTM specification. A certificate of compliance with this specification shall be provided to the Engineer prior to manufacturing the pipe-liner.

7.03 INSTALLATION

A. Incidental Items.

1. Safety - The installer shall carry out their operation in strict accordance with all OSHA and manufacturers' safety requirements.

Particular attention is drawn to those safety requirements involving entering confined spaces.

2. Traffic Control - Traffic control shall be the responsibility of the Contractor and shall conform to MUTCD and other portions of these specifications and the contract Special Provisions. The Contractor shall maintain traffic during work periods. During non-working periods, the Contractor shall open the entire roadway to traffic.

3. Access - It will be the responsibility of the Engineer to locate and designate all manhole access points open and accessible from the work and provide rights of access to these points. If a street must be closed to traffic because of the orientation of the sewer, the Contractor shall institute the actions necessary to do this for the mutually agreed time period.

4. Water Usage - Water is available from designated Town fill stations for cleaning, inversion, and other work requiring water. However, the Contractor shall secure permission from the Water Department and obtain the necessary permits and pay the fees associated with the permit and water usage.

5. Cleaning of Sewer Lines - The Contractor shall remove all internal debris out of the sewer line that will interfere with the installation of the pipeliner using cleaning procedures outlined elsewhere in these specifications.

6. Bypassing Sewage - The Contractor shall provide the flow of sewage around the section or sections of pipe designated for repair. The bypass shall be made by plugging the line at an existing upstream manhole and pumping the flow into a downstream manhole or adjacent system. The pump and bypass lines shall be adequate capacity and size to handle the flow. The Engineer shall be furnished a detail of the bypass plan.

7. Inspection of Pipelines - Inspection of pipelines shall be performed by experienced personnel trained in locating breaks, obstacles, and service connections by closed circuit television. The interior of the pipeline shall be carefully inspected to determine the location of any condition which may prevent proper installation of the pipeliner into the pipelines and it shall be noted so that these conditions can be corrected.

A DVD in PACP format and suitable log shall be kept for later reference by the Town of Pooleville. The Engineer has copies of the televised sewer inspections to be relined; these are available for prospective bidders. However, since the deterioration of sewer is an ongoing process and roots, solids, and deposits can accumulate over time, the Contractor shall base the design of the liner on inspections made immediately prior to installation.

8. Line Obstructions - It shall be the responsibility of the installer to clear the line of obstructions such as solids, dropped joints, roots, protruding service connections, and collapsed pipe that will prevent the insertion of the pipeliner. If inspection reveals an obstruction that cannot be removed by conventional sewer cleaning equipment, the installer shall be required to make a point repair excavation to uncover and remove or repair the obstruction. All costs associated with this repair work and all associated restoration work including the replacement of asphalt pavement, curb and gutter, sodding, etc., shall be incidental to the installation of the pipeliner.

The Contractor shall be required to remove any protruding taps to the inside wall of the pipe. In no case shall the pipe be less than 95% open to flow.

9. Service Connections - After the pipe has been reconstructed and tested, all existing service connections shall be reconnected. The reconnection of services shall be done without excavation, unless otherwise specified by the Engineer; this will be accomplished from the interior of the pipeline by a television-camera-directed cutting device. All re-cut service connections shall be free of burrs and frayed edges, or any restriction preventing free wastewater flow. Location of the service shall be made by inspection of the pre-construction TV tape and other proven detection methods.

10. Finish - The reconstructed pipe shall be continuous, without joints over the entire length of the pipe. The liner shall be free of all visual and material defects except those resulting from pre-lined conditions (such conditions shall be brought to the attention of the Engineer prior to pipelining work). There shall be no pits, pinholes, cracks, or crazing. The surface shall be smooth and free of waviness throughout the pipe.

Any defects that will affect the structural integrity of the reconstructed pipe shall be repaired or the pipeliner will be replaced at the Contractor's expense.

11. Final Sewer Cleaning - After the installation work and testing has been completed to the satisfaction of the Engineer as specified elsewhere in these specifications, the Contractor shall flush and clean all parts of the system. Remove all accumulated construction debris, rocks, gravel, sand, silt, and other foreign material from the sewer system at or near the closest downstream manhole. If necessary, use water jet, mechanical rodding, or bucketing equipment.

Upon the Engineer's final manhole-to-manhole inspection of the sewer system, if any foreign matter is still present in the system, reflush and clean the sections and portions of the lines as required.

12. Final Televising of Sanitary Sewer – After all testing and cleaning is completed; the Contractor shall provide the Engineer with a DVD in PACP format with GIS assets and a report showing the entire length of completed sewer lining work. The televising shall meet the criteria specified elsewhere in these specifications.

13. Sealing Liner at Manholes - If the liner fails to form a tight seal due to broken or misaligned pipe at the manhole wall, the installer shall apply a seal at that point.

The seal shall be approved by the Owner. Payment for the installation of the seal shall be incidental to the installation of the pipeliner.

B. Installation of Cured-in-Place Pipe, CIPP (Insituform)

1. The CIPP installation shall be in accordance with ASTM F1216, Section 7, with the following additional requirements.

Resin Impregnation - The quantity of resin used for tube impregnation shall be sufficient to fill the volume of air VOIDS in the tube with additional allowances for polymerization shrinkage and the loss of resin through cracks and irregularities in the original pipe wall. A vacuum impregnation process shall be used to uniformly distribute the resin throughout the tube. A roller system shall be used to uniformly distribute the resin throughout the tube.

The resin shall be cured by circulating hot water within the tube or other method approved by the Engineer. When cured, the finished Insitupipe will be continuous and tight fitting.

Temperature gauges shall be placed to determine the temperature of the incoming and outgoing water from heat source. Another such gauge shall be placed inside the tube at the remote end to determine the temperature at that location during the cure cycle.

2. Testing of the completed CIPP shall include the following:

a) Insitupipe samples shall be prepared in accordance with the ASTM F1216, Section 8.1, using either method proposed.

b) Leakage testing of the Insitupipe shall be accomplished during cure while under a positive head. Products in which the pipe wall is cured while not in direct contact

with the pressurizing fluid (e.g., a removable bladder) must be tested by an alternative method approved by the Owner

c) Visual inspection of the Insitu pipe shall be in accordance with ASTM F1216, Section 8.4.

d) The Contractor shall be responsible for the testing and associated costs.

C. Installation of PVC Fold-and-Form Pipe (Nu-Pipe).

The spool of folded pipe shall be heated to make it flexible, so that it may be bent for insertion into the existing pipe without crimping, kinking, over-straining, or scoring the folded pipe against the existing structures.

A cable shall be strung through the existing pipe and attached to the folded pipe. It shall then be pulled through the existing pipe to the terminating end.

After it is fully inside the pipe, the folded pipe shall be cut off at the starting point and restrained at the terminating point. It shall then be rounded manually at the terminating points and steel (or non-plastic) manifold pipes banded to it as required for the processing. Heat in the form of steam shall be continually applied. The rounding shall be performed in stages as required by the material properties and the licensor procedures.

The Contractor shall submit the details of the proposed processing, including the steps, the pressure (specified steam, air, or water), the duration, and the temperatures.

When processing at temperatures near the melting temperature, the Contractor shall demonstrate how the folded pipe is to be contained or protected from blowouts. Any damage, either to the pipe or property of others, shall be repaired at the Contractor's expense, to the satisfaction of the parties involved.

The rounding shall begin when the temperature of the material reaches a range of 185 degrees to 210 degrees F. The rounding device shall be inserted into the manifold and by use of steam pressure, the rounding device shall be forced through the pipe, rounding it in a progressive manner. In this way extraneous water shall be progressively moved to the terminating end and dimples will be formed at all branch connections. When rounding is complete, air pressure will replace steam as the heat is removed. Water may be added while maintaining the air pressure to cool the pipe to ambient temperature.

The Contractor shall furnish all equipment and personnel to conduct an acceptance test using low pressure air. The test will be conducted under the supervision of the Engineer.

D. Installation of HDPE Fold-and-Form Pipe (U-Liner)

1. Insertion - The U-liner shall be inserted into the existing sewer line with a power winch and steel cable attached to the end of the liner by use of any appropriate pulling head. Length of the liner to be inserted at any one time shall be governed by the winch drum

capacity and winching power available and consideration of the size and condition of the sewer.

2. Processing - A mobile installation unit shall be brought to the site ready to process the liner. The installation unit shall contain the instrumentation control console, steam generating equipment, CCTV facility, and other auxiliary miscellaneous equipment necessary for controlling processing of the U-Liner pipe.

The equipment shall be positioned next to the point of entry with minimum obstruction to the other site activities and shall be operated by trained personnel only.

3. Cooling Process - The pressure shall be increased to compensate for the heating-cooling transition and it shall be maintained until the temperature at the lowest critical point is 100° F (38° C). This shall constitute completion of the U-Liner pipe processing. The pipe within the pipe shall be tight fitting and adapted to the existing sewer pipe.

4. Testing - The Contractor will, on requirement, furnish all equipment and personnel to conduct an acceptance test using low pressure air. The test will be conducted under the supervision of the Engineer.

7.04 MEASUREMENT AND PAYMENT

A. Measurement of sewer lining pipe shall be by the linear foot measured to the nearest foot between centers of manholes.

B. Payment for sewer lining pipe by the linear foot for each specified diameter of existing sewer pipe shall include full compensation for all labor, equipment, and materials necessary to complete the work as specified and no additional compensation will be made therefore. All traffic control required for the trenchless pipe relining work shall be incidental, with no separate compensation given.

Payment for any repair work to remove line obstructions for the installation of the pipeliner shall be incidental to the sewer lining work with no separate compensation given. This repair work may include the removal and replacement of asphalt pavement, concrete curb and gutter and sodding in addition to the performance of the work to repair the existing sanitary sewer. Any asphalt pavement disturbed by sewer repair work shall be replaced with the Town standard pavement section for residential roadways.

Pre-lining and post-lining televising inspections shall be incidental to the sewer lining work with no separate compensation given.

SECTION 8.00 - TRENCHLESS PIPE/SHORT-LINER

8.01 GENERAL REQUIREMENTS

A. Intent.

These specifications include requirements for all design, materials, transportation, equipment, and labor necessary to reconstruct deteriorated sections for the sanitary sewer listed in these Contract Documents by means of the Short-Liner process or approved equal.

B. Reference Specifications.

This specification references ASTM standard specifications, which are made a part hereof by such reference and shall be the latest edition and revision thereof.

C. Design Considerations.

General Corrosion Requirements: The finished pipe in place shall be fabricated from materials which will be chemically resistant to withstand internal exposure to domestic sewage.

Short-Liner is manufactured from a polyester felt material which is saturated with a thermosetting resin and inserted into existing sewer line.

1. The installed pipe meets the relevant sections of ASTM F-1216.
2. The Modules of Elasticity for the laminate is minimum value 250,000 psi (ASTM D-790).
3. The Tensile Strength is minimum value 3,000 psi (ASTM D-638).
4. The minimum wall thickness is 8.0 mm, but can vary slightly according to specific installation conditions.

Tests for compliance with this specification shall be made according to the applicable ASTM specification. A certificate of compliance with this specification shall be provided upon request. All materials used in the reconstruction process shall be made of the best respective kinds and to the satisfaction of the Owner. Any materials not approved by the Owner shall be rejected prior to the reconstruction of the sewer.

These rejected materials shall then be replaced with approved materials at the Contractor's expense. The Contractor guarantees the quality of the liner during manufacturing and after installation. The outside diameter and minimum wall thickness shall be fabricated to a size that when installed, will neatly fit the internal circumference of the conduit. Standard dimension ratio of the Short-Liner shall be based on the evaluation of the design consideration.

These considerations normally include an evaluation of 1) Flow capacity, 2) External loads (hydrostatic pressure and/or static and dynamic earth loads), and 3) internal pressure, if applicable.

8.02 MATERIALS

The Modulus of Elasticity is one of the indications of the property of the material. It is in the interest of the Owner to provide a flexible restoration material for the damaged pipe since the condition or the environment in which the pipe is a part obviously is active. The Short-Liner pipe is made of thermosetting material which is designed with the modulus of elasticity range capable of providing the required flexibility without detriment to the structural integrity of the pipe.

The Short-Liner pipe shall conform to the minimum structural standards, as listed below:

	U.S. Standard	Results
Flexural Strength	ASTM D-790	4,500
Modulus of Elasticity	ASTM D-790	250,000

8.03 INSTALLATION

A. Installation Procedure.

The following installation procedure shall be adhered to unless otherwise approved by the Owner's representative.

1. Safety - The Installer shall carry out his/her operations in strict accordance with all OSHA and manufacturers' safety requirements. Particular attention is drawn to those safety requirements involving entering confined spaces.
2. Cleaning of Sewer Line - It shall be the responsibility of the Installer to remove all internal debris from the sewer line (designate cleaning method here to refer to standard sewer cleaning specifications if contained elsewhere in this document).
3. Inspection of Sewer Line - Inspection of pipelines shall be performed by experienced personnel trained in identifying breaks, obstacles and service connections by closed circuit television. The interior of the pipeline shall be carefully inspected to determine the location of any conditions which may prevent proper installation of the Short-Liner pipe into the sewer line, and it shall be noted so that these conditions can be corrected. A DVD in PACP format and suitable log shall be kept for later reference by the Owner.
4. Bypassing Sewage - The Installer, when required, shall provide for the flow of sewage around the section or sections of pipe designated for lining. The bypass shall be made by plugging the line at an existing manhole and pumping the flow into a downstream manhole or adjacent system. The pump and bypass lines shall be of an adequate capacity and size to handle the flow.

5. Line Obstructions - It shall be the responsibility of the Installer to clear the line of obstructions such as solids, roots, protruding service connections and collapsed pipe that will prevent the insertion of the Short-Liner pipe.

If inspection reveals an obstruction that cannot be removed by conventional sewer cleaning equipment, then the Installer shall make a point repair excavation to uncover and remove or repair the obstruction. Such excavation shall be approved in writing by the Owner's representative prior to the commencement of the work and shall be considered a separate cost item.

6. Insertion - The Short-Liner shall be inserted into the existing sewer line with a power winch and steel cable attached to the end of the liner by use of an appropriate pulling head. Length of the liner to be inserted at any one time shall be governed by the length of the section in need of repair or the maximum length of the installation equipment considering the size and condition of the sewer.

7. Processing - A mobile installation unit shall be brought to the site ready to process the liner. The installation unit shall contain heat generating equipment, CCTV facility and other auxiliary miscellaneous equipment necessary for controlling processing of the Short-Liner pipe. The equipment shall be positioned next to the point of entry with minimum obstruction to the other side activities and shall be operated by trained personnel only.

8. Cooling Process - The pressure shall be increased to compensate for the heating-cooling transition and it shall be maintained until the temperature at the lowest critical point is 100° F (38° C). This shall constitute completion of the Short-Liner pipe processing. The pipe within the pipe shall be tight fitting and adapted to the existing sewer pipe.

9. The reconstructed pipe shall be free of all visual and material defects except those resulting from pre-lined conditions (such conditions shall be brought to the attention of the Owner prior to Short-Lining). There shall be no pits, pinholes, cracks or crazing. The surface shall be smooth and create a smooth connection to the existing pipe by the end of the repair. Any defects that will affect the structural integrity of the reconstructed pipe shall be repaired or the Short-Liner will be replaced at the Contractor's expense.

10. Service Connections - After the pipe has been reconstructed, existing service connections in the repaired section shall be reconnected. The reconnection of services shall be done without excavation, unless otherwise specified by Owner; this will be accomplished from the interior of the pipeline by a television camera directed cutting device. All re-cut service connections shall be free of burrs and frayed edges, or any restriction preventing free wastewater flow. Location of the service shall be made by inspection of the pre-construction TV tape and other proven Short-Lining detection methods.

11. Documentation - The submittal shall meet the criteria specified elsewhere in these specifications.

12. Backfill - At all points where the liner pipe has been exposed (such as service connection fittings, or other points where the old pipe must be removed), the liner pipe and fittings shall be encased in cement-stabilized sand or other high density material as specified by the Owner to prevent deflection due to difference in subsidence.

After the encasement material is in place and accepted by the Owner's representative, backfill is placed and compacted to require finish grade in accordance with the Owner's specifications. Particular care should be taken to ensure compaction of earth beneath the lateral pipe in order to reduce subsidence and resultant bending at the lateral connection at the sewer main.

13. Cleanup - After the installation work has been completed and all testing acceptable, the Contractor shall clean up the entire project area and return the ground cover to grade. All excess material and debris not incorporated into the permanent installation shall be disposed of by the contractor. Sidewalk, driveway and street surfaces shall be recovered under the appropriate pay item.

8.04 MEASUREMENT AND PAYMENT

A. Measurement of Short-Liner pipe shall be by the linear foot.

B. Payment for Short-Liner pipe by the linear foot for each specified diameter of existing sewer pipe shall include full compensation for all labor, equipment, and materials necessary to complete the work as specified and no additional compensation will be made therefore.

All traffic control required for the trenchless pipe work shall be incidental, with no separate compensation given.

Payment for any repair work to remove line obstructions for the installation of the liner shall be incidental to the liner work with no separate compensation given.

Pre-lining and post-lining televising inspections shall be incidental to the sewer lining work with no separate compensation given.

SECTION 9.00 - TELEVISION INSPECTION

Televising shall be performed on all newly constructed or repaired gravity sanitary sewer lines after successful leak testing has been completed and accepted. Contractors and developers shall follow all requirements for televising as outlined in current Town specifications at the time of project.

9.01 TELEVISION EQUIPMENT

Television equipment shall include television camera, television monitor, cables, power source, lights, and other equipment. The television camera shall be specifically designed and constructed for operation in connection with sewer rehabilitation inspection. The Contractor shall utilize a self-propelled type camera where shown on the plans or required by the Engineer.

The camera, television monitor, and other components of the recording system, will be capable of producing a color picture in high definition resolution. The percentage of pipe slope shall be displayed on the screen and video relative to the camera's location.

The camera will be mounted so as to center the lens for each pipe diameter to be investigated. The camera will have measurement devices to accurately measure pipe diameters of both main and service laterals as well as pipe defects.

The camera will be operative in 100% humidity conditions. Lighting for the camera will minimize reflective glare. Lighting and camera quality will be suitable to provide a clear, in-focus picture of the entire inside periphery of the sewer pipe for all conditions encountered during the work. Focal distance will be adjustable through a range of from 6" to infinity.

The remote reading footage counter will be accurate to one percent over the length of the particular section being inspected and will appear superimposed on the image shown on the television monitor.

At the Contractor's option, a push-type camera can be used to televise laterals.

9.02 TELEVISION INSPECTION PROCEDURES

The camera shall be moved through the line in either direction at a uniform rate, stopping when necessary to ensure proper documentation of the sewer's condition. In no case will the television camera traverse the line being inspected for the line length at an average speed greater than 30 feet per minute. The contractor will stop at each service or defect a minimum of 10 seconds and using the pan and tilt of the camera fully view each service connection/defect. If, during the inspection operation, the television camera will not pass through the entire manhole section, the Contractor will reset their equipment in a manner so that the inspection can be performed from the opposite manhole. A reset or back out charge due to debris in the lines will be considered incidental to the televising pay item.

All lines shall be jetted and vacuumed so that all debris has been removed prior to televising.

A small quantity of water is to be introduced into the line prior to televising. The amount shall be determined by the Engineer and coordinated with the Town's Water and Sewer Department. The amount of water shall be sufficient enough to distinguish any sags or alignment problems with the pipe.

A fan/vacuum shall be utilized if steam given off by the sanitary sewer affects the camera visibility.

Examine starting and ending doghouses for quality of mortar work.

While at the bottom of the manhole, the camera will examine all joints as high as it can see around the entire manhole circumference. Joints shall be examined for infiltration and excessive gaps.

All outside drops shall be noted and visually examined looking down from the top.

Provide starting and ending manhole depths to the nearest 0.5'.

Include the location relative to the zero starting point, the side (left of right), and the clockwise position of the wye (i.e. 10:00). Note any problems associated with the service wye.

In the event the section being televised has substantial flow entering the sewer between manholes, such that 20% or 25% of the pipe diameter is flowing for 6"-10" pipe and 12"-24" pipe, respectively, the Contractor will coordinate with the Engineer to have such flow temporarily stopped and/or reschedule television inspection of the particular section to a time when such flow is reduced to permit proceeding with the television inspection. Any required by-passing or "pigging" is considered incidental.

When sewer line depth of flow at the upstream manhole of the section being televised is above the maximum allowable for television inspection, the Contractor will reduce the flow to permit proceeding with the television inspection.

Accuracy of the measurement meters will be checked daily. Footage measurements will begin at the sewer line point of penetration of the upstream manhole, unless specific permission is given to do otherwise. Footage will be shown on the data view/monitor at all times.

9.03 DOCUMENTATION OF THE TELEVISION RESULTS

Television inspection logs will be typed in format acceptable to the Town. Samples of the video and inspection log and PACP certification shall be submitted prior to bid acceptance, unacceptable submittals shall be rejected. Two written reports are required along with a brief summary report of noted items in each segment recorded on the project at the front of the report log. Printed location reports will clearly show the location, in relation to adjacent manholes, of each source of infiltration discovered. In addition, other data of significance, including the location of buildings and house service connections, joints, unusual conditions, roots, storm sewer connections, collapsed sections, presence of scale and corrosion, and other discernible

features, will be recorded. A voice recording embedded in the digital video recording will make brief and informative comments on the sewer conditions at the time of recording.

Color digital video recordings of the data on the television monitor will be made by the Contractor. One copy of each video, in certified PACP format, on a digital hard drive containing all video, printable reports and still photos will be provided to the Town.

Digital video recording playback will be the same speed that it was recorded.

Title and ownership of the digital hard drive will remain with the Town. The Contractor will have all video and necessary playback equipment readily accessible for review by the Town during the project. Recording speed will be noted on the recorded digital video.

Digital hard drive submittals will include the following information:

A. Data view:

1. Report number.
2. Date and time of TV inspection.
3. Upstream and downstream manhole numbers.
4. Current distance along reach (distance counter footage).
5. Printed labels on DVD hard case and DVD disk with location information, date, format information, and other descriptive information.
6. All televising data must match the GIS asset ID's provided by the Town.

B. Audio:

1. Date and time of TV inspection, operator name and name of adjacent streets or descriptive narration of easement.
2. Verbal confirmation of upstream and downstream manhole numbers and TV viewing direction in relation to direction of flow.
3. Verbal or electronic description of pipe size, type, and pipe joint length.

C. Typed logs will include, but are not limited to, the following information:

1. Location of each point of leakage.
2. Location of each service connection.
3. Location of any damaged sections, nature of damage, and location with respect to pipe axis.
4. Deflection in alignment of grade of pipe.
5. Record of repairs and quantity of sealing material used (if applicable).
6. Date, time, town, street or easement, basin, manhole section, reference manhole number, name of operator, inspector, and weather conditions.
7. Pipe diameter, pipe material, section length, and corresponding DVD identification.

9.04 MEASUREMENT AND PAYMENT

- A.** Measurement of sewer televising will be by the linear foot completed, measured to the nearest foot between centers of manholes.
- B.** Payment for sewer televising by the linear foot will include full compensation for all labor, equipment, and materials necessary to complete the work as specified and no additional compensation will be made therefore.

BID BOND FORM

Contract No. 100.038
Date Bond Executed

KNOW ALL PERSONS BY THESE PRESENTS THAT,

(Here insert legal name of the Contractor)

(Here insert the address of the Contractor)

As PRINCIPAL, hereinafter called "Contractor," and

(Here insert the legal name of the Surety)

(Here insert the address of the Surety)

As SURETY, hereinafter called "Surety", are held and firmly bound unto THE TOWN OF POOLESVILLE, a municipal corporation of the State of Maryland, as OBLIGEE, hereinafter called the "THE TOWN", for the use and benefit of claimants as hereinbelow defined, in the penal sum of _____ dollars (\$ _____), for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Contractor herein is herewith submitting his Bid Form for the Town of Poolesville, Lagoon Weir Installation Bid Form being made a part hereof to the same extent as if fully set out herein.

NOW, THEREFORE, if the said Bid Form submitted by the Contractor be accepted and Contract be awarded to said Contractor, and if the said Contractor shall execute the proposed Contract and shall furnish the "Performance and Payment Bonds", as required within the Contract Documents within the time established therein, then his obligation shall be void; if the Contractor shall fail to execute the proposed Contract and furnish the "Performance and Payment Bonds," the Surety hereby agrees to pay the Town the penal sum as liquidated damages.

Signed and sealed this _____ day of _____, A.D., 2021.

Contractor (Principal) Name

ATTEST

_____ By _____ SEAL

SURETY NAME

_____ SEAL
(Title)

NOTE: Attach hereto Power of Attorney

TOWN OF POOLESVILLE

AFFIDAVIT OF NON-CONVICTION

I hereby swear or affirm under the penalty for perjury:

(1) That I am the individual Bidder, or a partner in the partnership bidding, or an officer, director or employee of a business entity bidding and have the authority to make this affidavit on behalf of the partnership or business entity; and

(2) That I the signator have not been convicted under the provisions of Article 27 of the Maryland Annotated Code, of bribery, attempted bribery or conspiracy to bribe and/or during the course of an investigation or other proceeding have not admitted any acts or omissions which could constitute bribery, attempted bribery or conspiracy to bribe under aforementioned Article, or have not been convicted under any other State or Federal Law of bribery, attempted bribery or conspiracy to bribe in connection with any contractor or bid therefore with any State or County agency for the supply of goods or services; and

(3) If the bidder herein is a business entity, that to the best of my knowledge, the bidding business entity or any of its officers, directors or partners or any of its employees directly involved in obtaining contracts with the State or County agencies has not been convicted of bribery, attempted bribery or conspiracy to bribe under the laws of any State or Federal government.

(4) That I have fully informed myself regarding the accuracy of the statements made in this affidavit.

Signed _____

Firm Name _____

Subscribed and sworn to
before me this _____ day of _____, 2021.

Notary Public _____

My Commission expires _____, 2021.

TO: THE TOWN OF POOLESVILLE
P.O. BOX 158
POOLESVILLE, MARYLAND 20837
PROPOSAL ON CONTRACT NUMBER 100.038

Wesmond Lateral Connections

Made this _____ day of _____, 21__ by _____

business address, _____
_____.

The bidder declares that the only person, firm or corporation, or persons, firms or corporations, that has or have any interest in this proposal, or in the contract or contracts proposed to be taken, is or are the undersigned; that this proposal is made without any connection or collusion with any person, firm, or corporation making a proposal for the same work; that the attached specifications and form of contract therein referred to, have been carefully examined and are understood; that as careful an examination has been made as is necessary to become informed as to the character and extent of the work required; and that it is proposed and agreed, if the proposal is accepted, to contract with The Town of Poolesville, the form of contract hereto attached, to do the required work in the manner set forth in the specifications.

I/We propose to furnish all labor, equipment, materials and other facilities and things necessary and proper to construct the "Wesmond Lateral Connections" in accordance with the Bid Documents, therefore, at and for the price shown below:

Dollars _____ Cents (\$ _____).

THIS CONTRACT SHALL BE COMPLETED WITHIN 180 CALENDAR DAYS FROM
NOTICE TO PROCEED.

If this proposal shall be accepted by the Town and the undersigned shall refuse or neglect ten days after receiving the contract for execution, to execute the same, then said Town may, at its option, determine that the bidder has abandoned the contract, and thereupon the proposal and the acceptance thereof shall be

null and void, and the deposit accompanying the proposal shall be forfeited to and become the property of said Town.

Should bidder fail to complete this contract on or before 180 calendar days after receipt of written notification to proceed, bidder further agrees to pay as liquidated damages the sum of \$300.00 for each consecutive calendar day thereafter.

NOTE: The Bidder or bidders must sign here, and the addresses of each must be signed and subscribed to by at least one member. In the case of corporations, the corporate name must be signed by some authorized officer or agent thereof, who shall also subscribe his name and office. If practicable, the seal of the corporation shall be affixed.

BIDDER _____ SIGNATURE _____
BUSINESS ADDRESS _____
_____ TELEPHONE NO. _____

The names and addresses of all members of a firm, or the names, addresses, and titles of every officer of a corporation, as the case may be, must be given here by the member of the firm, or by the officer or agent of the corporation who signs the proposal.

NAME	ADDRESS	TITLE
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

U.S. Treasury Department Employer's Identification Number:

PRICE SCHEDULE

Wesmond Lateral Connections

The Bidder shall include prices for all items of work. The total price items shall equal the lump sum price indicated on page BF-4 of the proposal form. work shall include preparation of site as necessary, coordination segments of construction including permitting and appurtenances, all materials necessary to complete the work, installation and construction, all finishes and project restoration and clean up of work.

Item Number	Unit Description	<u>Price</u>	<u>Price</u>
1	Mobilization/Demobilization	Lump Sum _____	_____
2	Cleaning/ video of sewer main , 2,100'	Linear foot _____	_____
3	Grouting of Laterals 103 units	Per Lateral _____	_____
4	Grout 200 Gallons	Per Gallon _____	_____

TOTAL PRICE _____

(Show on Page BF-4)

TOWN OF POOLESVILLE
CONTRACTOR'S QUALIFICATION STATEMENT

Project: _____

Contractor: _____

A. Recent Projects

List a minimum of 3 recent projects indicating similar experience to this project.

	Project Name	Owner Address & Phone	Description of Work	Contract Values
1.				
2.				
3.				

B. Number of Employees

Provide number of permanent employees on staff by category. Indicate number of employees to be assigned to this project.

Category	Total on Staff	Total This Project	%
Administrative			
Project Managers			
Superintendents			
Foreman			
Equipment Operators			
Carpenters			
Pipe Layers			
Plumbers			
Electricians			
Laborers			

C. Equipment

List type of equipment owned by Contractor to be used on this project. List rental equipment to be used on this project.

Type of Equipment	Owned	Rental
1.		
2.		
3.		
4.		
5.		
6.		
7.		

D. Subcontractors

List all subcontractors to be utilized on this project.

Company	Trade/Specialty	Percent of Contract Work
1.		
2.		
3.		
4.		
5.		

E. Suppliers

List a minimum of three suppliers with current accounts.

Supplier Name & Phone	Account Number
1.	
2.	
3.	

F. Maximum Bonding Limit:_____

I hereby affirm that the above information is correct to the best of my knowledge.

Signed:_____

Title:_____

FORM FOR SUBSTITUTIONS FOR SPECIFIED ITEMS

Specified Material	Replacement Material	Estimated Quantity	Total Change In Price
1.			
2.			
3.			
4.			

ACKNOWLEDGEMENT OF ADDENDA

The Town of Poolesville
Contract No. 100.038
Wesmond Lateral Connections

The bidder acknowledges below, all addenda received relating to this project.

Acknowledgement of Addenda:

Addendum # _____

Addendum # _____

Addendum # _____

Addendum # _____

Addendum # _____

Addendum # _____

BIDDER: _____

AGREEMENT AND BONDS

AGREEMENT

THIS AGREEMENT is dated as of the ____ day of _____ in the year 2020 by and between The Town of Poolesville, a municipal corporation of the State of Maryland (hereinafter called OWNER) and _____ (hereinafter called CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1. WORK

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The project involves the grouting of lateral connections of 6" laterals to 6" mainlines. All work will be constructed in the Town of Poolesville, located in Montgomery County, Maryland.

The project for which with Work under the Contract Documents may be the whole is generally described as follows: Contract No. 100.038 – **Wesmond Lateral Connections**.

ARTICLE 2. ENGINEER

The Project has been designed by Clark | Azar Associates Incorporated, who is hereinafter called ENGINEER and who will assume all duties and responsibilities and will have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

ARTICLE 3. CONTRACT TIME

- 3.1 The Work shall be fully completed and ready for final payment in accordance with Article 23 of the General Conditions within 180 calendar days after the date when the Contract Time commences to run.
- 3.2 Liquidated Damages. OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not substantially complete within the time specified in paragraph 3.1 above, plus any extensions thereof allowed in accordance with Article 14 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not substantially complete on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER three hundred dollars (\$300.00)

for each calendar day that expires after the time specified in paragraph 3.1 for completion of the Work.

ARTICLE 4. CONTRACT PRICE

OWNER shall pay CONTRACTOR for performance of the Work in accordance with the Contract Documents in current funds based on the actual measured quantities of Work complete and in place, and the unit prices shown on the CONTRACTOR'S Bid Form, attached as Exhibit A and made a part hereto.

ARTICLE 5. PAYMENT PROCEDURES

CONTRACTOR shall submit monthly Application for Payment in accordance with Article 22 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

5.1 Progress Payments. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment as recommended by ENGINEER. All progress payments will be on the basis of the progress of the Work measured by the schedule of values provided for in Article 22 of the General Conditions and in the Bid Form. The OWNER shall make progress payments within 30 days of the date of the ENGINEER's approval.

5.2 Final Payment. Upon final completion and acceptance of the work in accordance with the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said General Conditions.

ARTICLE 6. CONTRACTOR'S REPRESENTATIONS

In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

6.1 CONTRACTOR has familiarized himself with the nature and extent of the Contract Documents, Work, locality, and with all local conditions and Federal, State and local laws, ordinances, rules, permits and regulations that in any manner may affect cost, progress or performance of the Work.

6.2 CONTRACTOR has made or caused to be made examinations, investigations and tests and studies as he deems necessary for the performance of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, tests, reports, or similar data are or will be required by CONTRACTOR for such purposes.

- 6.3 CONTRACTOR has correlated the results of all such observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.
- 6.4 CONTRACTOR has given ENGINEER written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

ARTICLE 7. CONTRACT DOCUMENTS

The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR are attached to this Agreement, made a part hereof and consists of the following:

- 7.1 This Agreement
- 7.2 Bid Form
- 7.3 Notice of Award
- 7.4 General Conditions
- 7.5 Any Modification, including Change Orders, duly delivered after execution of Agreement.
- 7.6 Specifications

The Contract Documents may only be altered, amended or repealed by a Field Order or a Change Order (as defined in Article 1 of the General Conditions).

ARTICLE 8 INDEPENDENT CONTRACTOR

- 8.1 Terms used in this Agreement which are defined in Article 1 of the General Conditions shall have the meanings indicated in the General Conditions.
- 8.2 No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restrict may be limited by law), and unless specifically state to the contrary in any written consent to and assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

ARTICLE 9 INDEMNIFICATION

- 9.1 CONTRACTOR agrees to indemnify and save harmless the OWNER against all liabilities, claims and demands for personal injury or property damage or other expenses suffered or arising out of or caused by any negligent act or omission of CONTRACTOR, its subcontractors, servants, agents or employees incurred in the performance of this Agreement, and shall secure appropriate personal and property damage insurance for protection of the owner in amounts found to be sufficient by the OWNER as specified in Section 24.2 of the General Conditions.

ARTICLE 10 MISCELLANEOUS

- 10.1 Terms used in this Agreement which are defined in Article 1 of the General Conditions shall have the meanings indicated in the General Conditions.
- 10.2 No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restrict may be limited by law), and unless specifically state to the contrary in any written consent to and assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.
- 10.3 OWNER and CONTRACTOR each binds himself, his partners, successors, assigns and legal representatives to the other party hereto, his partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

IN WITNESS WHEREOF, the parties hereto have signed this Agreement in triplicate. One counterpart each has been delivered to OWNER and CONTRACTOR. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR.

This AGREEMENT will be effective on _____, 2021.

OWNER: The Town of Poolesville

CONTRACTOR: _____

By: _____

Kerri Cook

The Town of Poolesville

By: _____

Corporate Seal

Attest: _____

Attest: _____

Address for giving Notices

Address for giving Notices

The Town of Poolesville

P.O. Box 158

Poolesville, Maryland 20837

License No. _____

Agent for service of process:

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS THAT,

(Here insert legal name of the Contractor)

(Here insert the address of the Contractor)

a _____, hereinafter called PRINCIPAL, and
(Corporation, Partnership, or Individual)

(Here insert the legal name of the Surety)

(Here insert the address of the Surety)

hereinafter called SURETY, are held and firmly bound unto

THE TOWN OF POOLESVILLE, hereinafter called the OWNER, Box 158, Poolesville, Maryland 20837,

hereinafter called OWNER, in the penal sum of _____

(\$_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we ourselves, successors, assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the PRINCIPAL entered into a certain contract with the OWNER, dated the ____ day of _____, 2021, a copy of which is hereto attached and made a part hereof for the construction of:

CONTRACT 100.038: Wesmond Lateral Connections

NOW, THEREFORE, if the PRINCIPAL shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the SURETY, and during the one year guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which if may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in three (3) counterparts, each one of which shall be deemed an original, this the _____ day of _____, 2021

ATTEST

Principal

(Principal) Secretary

By _____

(SEAL)

(Witness as to Principal)

(Address)

(Address)

Surety

ATTEST:

(Surety) Secretary

(SEAL)

Witness as to Surety

By _____
Attorney-in-Fact

(Address)

(Address)

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS THAT

(Here insert legal name of the Contractor)

(Here insert the address of the Contractor)

a _____, hereinafter called PRINCIPAL,
(Corporation, Partnership or Individual)

and _____
(Here insert the legal name of the Surety)

(Here insert the address of the Surety)

hereinafter called SURETY, are held and firmly bound unto

THE TOWN OF POOLESVILLE, hereinafter called the OWNER, Box 158, Poolesville, Maryland 20837,

hereinafter called OWNER, in the penal sum of _____

(\$ _____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the PRINCIPAL entered into a certain contract with the OWNER, dated the _____ day of _____, 2021, a copy of which is hereto attached and made a part hereof for the construction of:

CONTRACT 100.038 Wesmond Lateral Connections

NOW, THEREFORE, if the PRINCIPAL shall promptly make payment to all persons, firms, SUBCONTRACTORS, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and all insurance premiums on said WORK, and for all labor, performed in such WORK whether by SUBCONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said SURETY for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any way affect this obligation on this BOND, and it does hereby waiver notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in three (3) counterparts, each one of which shall be deemed an original, this the ____ day of _____, 2021.

ATTEST:

Principal

(Principal) Secretary

By _____ (s)

(SEAL)

(Address)

Witness as to Principal

(Address)

Surety

ATTEST:

By _____
Attorney-in-Fact

Witness as to Surety

(Address)

(Address)

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the PROJECT is located.

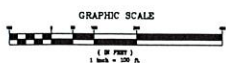
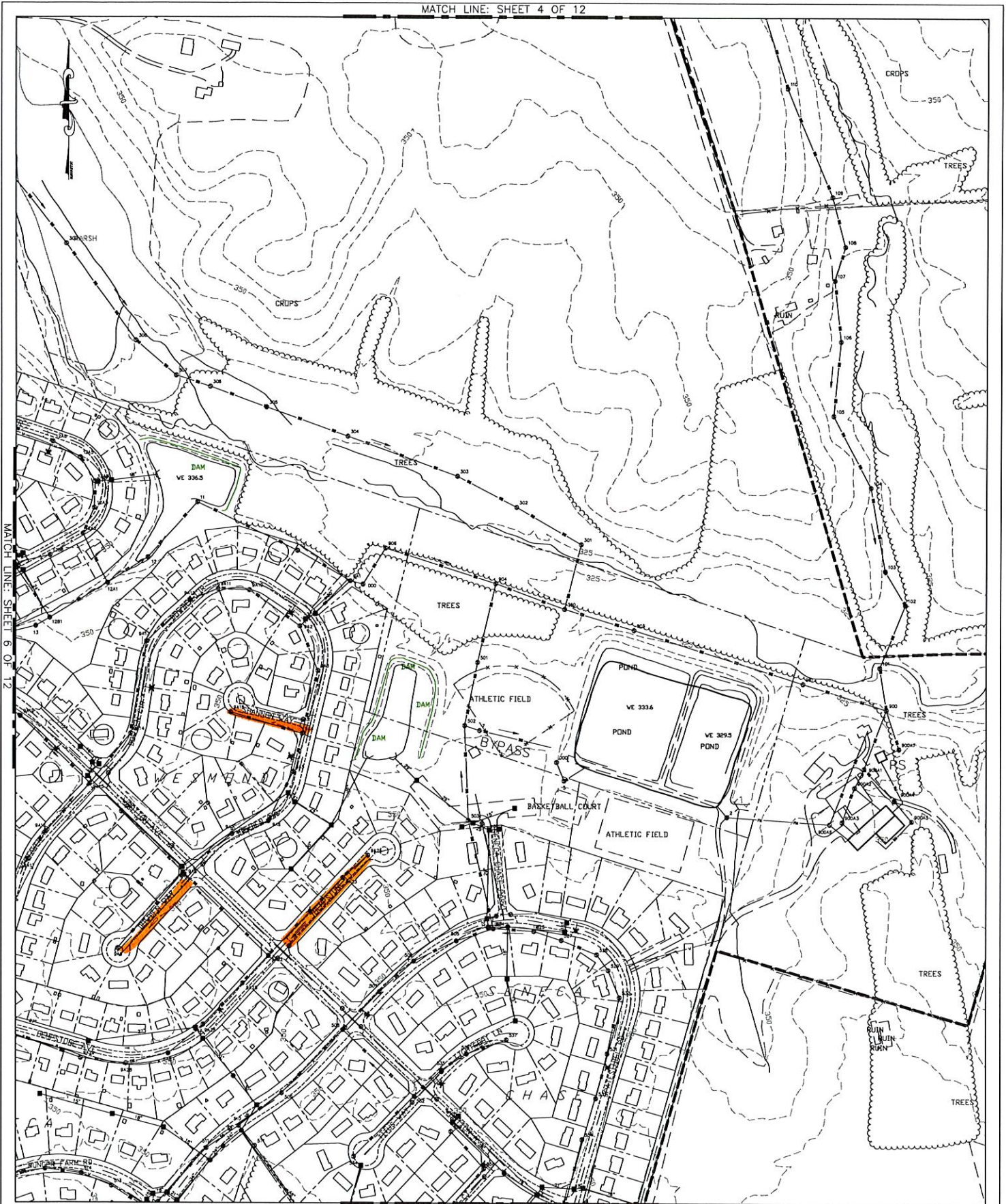
ATTACHMENTS

Wesmond Lateral Connections

MANHOLE	CONNECTED TO	ADDRESSES DISTURBED	
9A34	9A35	19301	HEMPSTONE AVE
		19304	
		19305	
		19308	
		19309	
		19312	
		19313	
		19316	
		19317	
15A6	15A5	19324	HEMPSTONE AVE
		19325	
		19328	
		19335	
		19332	
15A1	15A2	19355	HEMPSTONE AVE
			17417 SOPER ST
			17416
			17413
9A39	9A38	17409	SOPER ST
		17408	
		17405	
		17404	
		17401	
		17400	
		17336	
		17332	
		17328	
		17325	
15A9	15A8	17508	SOPER ST
		1751	
		17516	
		17517	
		17600	
		17601	
		17604	
		17609	

12A12	12A11	17608	SOPER ST
		17613	
		17612	
		17617	
		17616	
		17620	
		17621	
		17624	
		17628	
		17645	
12A11	12A13	17628	SOPER ST
12A13	12A14		
12A14	12A15	17665	KOHLHOSS RD
		17667	
		17669	
		17671	
		17673	
		17675	
		17677	
		17689	
		17687	
		17685	
		17683	
		17681	
12A15	12A16	17654	KOHLHOSS RD
		17656	
		17658	
		17660	
		17662	
		17664	
		17666	
		17670	
		17672	
		17674	
		17676	
		17678	
		17680	
		17682	

12A8	12A10	17633	COLLIER CIR	19236	WALTERS AVE
		17628		19232	
12B5	12B4	19228	WALTERS AVE		
		19224			
		19220			
		19225			
		19216			
9A8	9A9	17316	DOWDEN WAY		
		17317			
		17312			
		17313			
		17308			
		17309			
		17304			
		17305			
		17300			
		17301			
9A4	9A18	19000	SHANNON WAY		
		19004			
		19008			
		19012			
		19013			
		19009			
		19005			
		19001			
9A16	9A17	17324	WHITAKER RD		
		17320			
		17325			
		17321			
		17316			

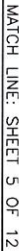


TOWN OF POOLSVILLE OVERALL UTILITIES MAP

- LEGEND**
- SEWER MANHOLE
 - SEWER LINE
 - WATER VALVE
 - FIRE HYDRANT
 - WATER MAIN
 - WATER SEWER PALET
 - STORM SEWER MANHOLE
 - STORM SEWER LINE

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- LEGEND**
- ⊙ - SEWER MANHOLE
 - SS — - SEWER LINE
 - ⊕ - WATER VALVE
 - ⛑ - FIRE HYDRANT
 - 8 — - WATER MAIN
 - - STORM SEWER INLET
 - - STORM SEWER MANHOLE
 - — — - STORM SEWER LINE

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